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WALKS AND TALKS ON THE FARM.—NO. 6.

I HAVE just been setting out some strawberry plants, and as land is plenty and labor scarce, I set them in rows four feet apart and fifteen inches in the rows. I do not propose to let them run so as to occupy the ground between the rows, as is the general practice, but intend to keep down the runners and cultivate the plants in hills. In this way we can get larger strawberries, picking is easier, and the plants will last longer. The Belmont or Boston method is to set out the plants in the spring in rows three feet apart and fifteen inches apart in the rows. Cultivate the ground carefully with a horse hoe till the plants begin to run. The following summer they will bear a large crop—and that is the end of them. The whole crop is then plowed under, and the land sown to turnips or some other late crop. For market purposes, this is probably the best method; but when you wish for extra nice fruit for your own use, planting in hills and keeping down the runners is to be preferred. There is no pleasanter sight in a kitchen garden than a plot of luxuriant strawberries in hills, with the land well mulched with grass, not a weed to be seen, and the heavy clusters of fruit bending the strong stalks to the ground. But to obtain such results, *the hoe* must be freely and constantly used.

I got the blacksmith to make me a schuffle hoe out of an old grass scythe. It is fifteen inches wide. For cutting up small weeds on light land nothing

can beat it. He made the whole thing out of the scythe, using the rim to make the bows to which the blade is riveted.

I have just been reading an article in the *Country Gentleman*, on "Shading Crops," evidently from the pen of J. J. Thomas. He believes in *hoeing* as thoroughly as I do,—and some of my friends regard it as one of my hobbies. Surely, no reader of an agricultural paper at the present day believes there is any advantage in "shading" ground by allowing the weeds to grow. I *have* heard people contend that they kept the ground moist, and even the author of one of our horticultural books recommends sowing turnips among dwarf pear trees, in order to shade the ground and keep it moist. But a moment's reflection would show the absurdity of the idea. That plants in growing, pump up water from the soil and dissipate it through their leaves into the atmosphere more rapidly than it will evaporate from the bare surface, is a well known fact. When I was at Rothamsted, Mr. Lawes made some experiments, the results of which showed the enormous amount of water that plants give off during their growth. They showed that, from March 19th to September 7th, an acre of wheat—equal to thirty bushels per acre—evaporated through its leaves 355¼ tuns of water, or over 500 gallons *per day!* An acre of clover, equal to two tuns of hay, would evaporate over 1,000 gallons per day!

We all know how much drier woods are while the trees remain, than the same or similar woods are after the trees are cut down. The trees take up and evaporate the water.

The article in the *Country Gentleman* to which I have alluded suggests the following experiment:

It is familiar to most of our readers that plants in dry weather pump up large quantities of water out of the soil, and dissipate it freely from the surface of the leaves in the form of vapor. It would impress a valuable lesson on the mind of any one not familiar with this fact, to try the following experiment: Allow a piece of ground, say ten feet square, to grow up with a dense mass of grass or with a crop of rank weeds; adjoining it let a similar portion be perfectly free from vegetable growth, and keep the surface mellow by a thorough raking or hoeing once a week or oftener. The superficial observer would say that the exposed and bare soil thus subjected to the burning rays of a summer sun, would soon become dry, and all the moisture dispelled from it, while he would take it for granted that the dense covering of the cool, shading leaves on the other portion would keep the soil cool and moist below. If he is not already aware that the exposed mellow soil forms a perfect mulch for the earth below on one part, and that the thousands of stems of living plants on the other are bringing up and discharging water into the air at a rapid rate, he will be very much surprised on thrusting a spade into different places, to find that the exposed soil is quite moist below the surface, even if

there has been no rain for weeks, while the "shaded" part will come up *dry* from the full depth the spade has gone down. We advise every one to try this experiment, on account of the clear ocular demonstration it affords.

The practical deduction to be made from these facts is, that a mellow soil with a mellow surface will retain moisture better than in any other condition. A mulching of straw or other litter (this matter being in a dead or decaying state) answers a good purpose to keep the soil moist below; but it is not so good nor efficient as the mulching of an equal thickness of pulverized earth. Pass down through a stratum of straw four inches thick, and observe the degree of moisture; then remove four inches of mellow top soil from another place, and a greater degree of moisture will be evident. A hard, bare and unpulverized soil will not retain moisture nearly so well as one that frequently has the crust broken and kept mellow. Still worse than a hard surface is a growth of grass and weeds. If these facts were sufficiently appreciated and understood, the instances would be less frequent of tree-planters allowing their young orchards and fruit-gardens to become hard and crusted, or to grow up with weeds; and few would ever think of setting out young trees in grass, sooner than they would plant a crop of potatoes in an unplowed pasture or meadow.

A further illustration is furnished by the practice of one of our best farmers, who cultivates his corn crop once a week regularly, the whole season through, or until the large, encroaching ears forbid the passing of the horse. His corn is larger in consequence, and his fields are as clean as a floor when the corn is cut up.

In an article written for the *Rural Annual and Horticultural Directory* for 1864, by Thomas Meehan, editor of the *Gardeners' Monthly*, he says:

No one would suspect what a difference there is in the temperature of a clean, cultivated surface over one under a regularly mowed lawn. The day of this writing (August 8th) the thermometer one foot under a cleanly cultivated grape border on the grounds of James Wright, Esq., of Philadelphia, as tested for me by Mr. W. Joyce, his gardener, stands at 98°. Only four feet from this spot, on a closely kept lawn, and at the same depth of one foot, the thermometer is but 82°.

This is an interesting fact. The cultivated soil was warmer, and undoubtedly moister, than that in grass; and heat and moisture are two of the essential elements in rapid growth.

I have just been reading a lecture delivered at a scientific meeting of the Royal Dublin Society, by Mr. Lawes, of Rothamsted, on the science of feeding, as applied to the production of meat and manure. The subject is an elaborate one, but there is no man better qualified to discuss it. Mr. Lawes has been investigating this and kindred subjects for more than twenty years. He illustrated his lecture with diagrams and tables embodying some of the main results of these investigations. It has been the opinion of many scientific men that a food was nutritious in proportion to the nitrogenous, or so-called flesh-forming constituents which it contained. Mr. Lawes' experiments prove that so far as mere nutrition is concerned, the value of a food is in proportion to the available carbonaceous matter, such as oil, starch, sugar, &c., which it contains. It is admitted, however, that a certain amount and proportion of nitrogenous substance is essential in the food of animals; and Mr. Lawes says: "If it were desirable to state in a few words (subject, of course, to much reservation) what was the approximate proportion of the nitrogenous to the digestible non-nitrogenous substances below which they should not exist in the food of our stock, he should say, about such as we find them in the cereal grains; and since few of our stock foods are below, and many above this in their proportion of nitrogenous substances, it results that we are more likely to give an excess than a deficiency of such constituents, so far as the requirements of the animals are concerned."

Such remarks are hardly applicable to the general system of agriculture adopted in this country. There are few farmers who use any kind of cattle food that is not produced on the farm; and it is admitted that the value of the manure is in proportion to the amount of nitrogen in the food.

Peas may not be more nutritious than Indian corn, but as they contain twice as much nitrogen, and as the manure obtained from them would be twice as valuable, it would be better, in case we must sell either, to sell the corn and feed out the peas on the farm.

The great change which has taken place in the practice of feeding stock in modern times, consists in bringing the animals much earlier to maturity by means of careful breeding and more liberal feeding. This point is clearly shown by contrasting the results of some experiments made in 1794 by the Duke of Bedford, to determine the comparative feeding qualities of Southdown, Leicester, Worcester and Wiltshire sheep, with similar experiments made a few years since by Mr. Lawes to test the comparative fattening qualities of Southdown, Hampshire Downs, Leicester and Cotswold sheep. In the Duke of Bedford's experiments, twenty sheep of each breed were selected and weighed on November 19th, 1794. To each lot was alotted sixteen acres of pasture, and in the winter some turnips were thrown upon the pasture, and a small quantity of hay was also provided. On February 16th, 1796, after a period of sixty-four weeks of feeding, the experiment was concluded and the sheep sent to market.

Over the whole period the sheep gave an average increase of 40 and 50 pounds per head.

In Mr. Lawes' experiments each lot of forty or fifty sheep were put up to fatten in November, when their weights were very nearly the same (about 100 pounds) as those of the Duke of Bedford's sheep; and when fat they had increased in about the same degree, namely, to an average of 150 pounds each.

In Mr. Lawes' case, however, this increase was obtained in twenty weeks; while with the old-fashioned sheep and the scanty feeding of the past century, it took *more than three times as long* to accomplish the same result.

"It's raining again!" So said Michael an hour since, sadly but not unpleasantly. We were harrowing in the peas with what the manufacturers' denominate a Share's Coulter Harrow Pulverizer and Grain Coverer." It is a good implement—just the thing to cover peas—but like the common harrow it will not do good work in wet weather. And alas! this is the only weather we have had for the past two weeks. It rained hard yesterday, and the day before we had a little sprinkling of snow. This morning opened fair, and by noon the sun came out. The barometer was rising, and every thing once more wore a pleasant aspect. Men and horses seemed to feel better.

Three days ago I had sown some peas, but could not get them all harrowed in before the rain came on and stopped us. There they have lain on the surface ever since. I set two teams to harrow, and had not been at work more than two hours, when it rained again! It was nothing more than a sharp shower, but enough to prevent further work for the day, and send us all home to the barn. I felt like saying, "It is too bad!" but out of respect to the Doctor did not, as he thinks all such expressions are a reflection on the ways of Providence.

But it is certainly discouraging. I have had the ground plowed and harrowed for barley for two weeks past, and have not yet been able to sow a grain. It would have done to sow once or twice, but wishing to get it in in very nice order, I waited "till to-morrow"—and then it rained! It is all very well for agricultural writers to tell us never to sow land when it is wet, but such a season as this would put their theory and their patience to a severe test.

The fact is, as John Johnston's Scotch grandfather remarked, "All the airth needs draining." Certainly that small portion of it that has come into my possession needs it very much. Such a wet spring as this has been has given a good opportunity for ascertaining the wet portions of the farm. Though most of the farm is high rolling land, I do not believe there is a single field where there is not at least one wet spot—and so it is with most of the farms in Western New York. Prof. Buckland, of Canada, sometime ago remarked that if the money spent in our efforts to suppress the present gigantic rebellion had been spent in judicious underdraining it would have made us the richest nation in the world! I was, at the time, somewhat inclined to smile at the remark, but there can be no doubt of its truthfulness. National prosperity, however, is by no means the highest good either for nations or individuals. Wealth does not give wisdom.

I used to think it would pay to raise beans to feed out to sheep on the farm. They tax the soil but little, can be sown late in the season, and admit the use of the horse-hoe; while the manure made by an animal consuming them is richer than that made from any other grain—somewhat richer than that from peas, and twice as rich as that from corn and other cereals.

The demand for beans in the army is so great that they now bring high prices; and their extensive cultivation, especially on wheat farms, would undoubtedly be profitable. The crop will be off in ample time to sow wheat this fall, and if the ground has been well cultivated and hoed it will be almost as clean as if it had been summer-fallowed.

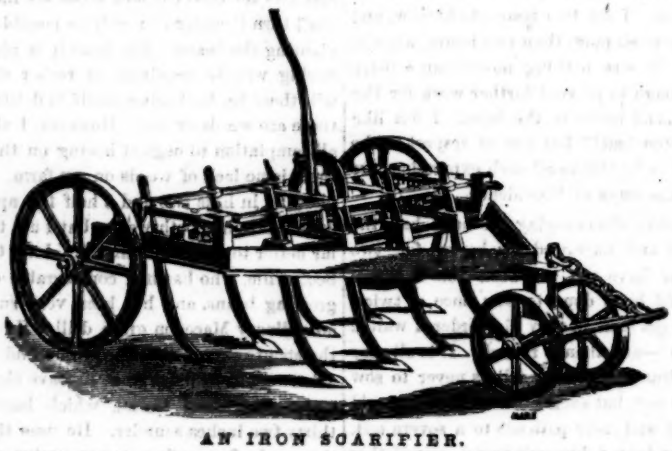
The best soil is a gravelly loam, but they will do well on almost any soil if well cultivated. On heavy soil use a little more seed. I intend to plant this year on a clover sod. I plastered it about a month ago, and the clover is now about six inches high. I shall turn it under as neatly as possible, just before planting the beans. The later it is plowed the less hoeing will be required—or rather the less weeds will there be, for hoeing, itself, is desirable, whether there are weeds or not. However, I shall be saved all temptation to neglect hoeing on this account;—there is no lack of weeds on my farm. I thought of planting in hills two and a half feet apart, so that I could horse-hoe both ways; but I am told that it is far better to drill them in. Mr. John C. McVean, of Scottsville, who has had considerable experience in growing beans, and has been very successful, uses an ordinary Macedon grain drill. He takes out all the spouts except the centre one and the two outside ones; then drive so as to leave eight inches between the wheel tracks, which leaves the drills thirty-two inches asunder. He uses the large cavities made for sowing coarse grains, and the eight-peck wheel. In this way he sows about three pecks per acre.

It rains again! What will become of us? Winter wheat is likely to turn out badly, both in this section and throughout the West; and if this weather continues much longer, our spring crops will not make up the deficiency. Mr. A. told me to-day that he had not, as yet, "turned a furrow." It quite consoled me to hear him say so. I am at least no worse off than my neighbors—though I understand that some of them, who regard me somewhat in the light of a "Book Farmer," are disposed to laugh at the predicament I have fallen into in regard to my peas! They do not like my using artificial manures. "Give me good barn-yard manure," one of them said to me the other day, "and you are

welcome to all your guano and superphosphate." I say so too. But how are you to get the manure? My farm has been rented for several years, and is "pretty well run." To make manure you must have something to make it with. If I can raise a good crop of peas, or clover, or corn, by the aid of "artificials," I can then make manure; and this is one object I have in view.

I have just been using one of Remingtons' two-horse cultivators. It is the best implement of the kind I have seen in this country. For mellowing the soil and putting in spring crops we much need a cultivator with long slender teeth sloping forward. The Remington Cultivator comes nearer to this than anything I have used. The common two-horse wheel cultivator is much harder on the team, and does not do anything like as good work. Tom says it is "a regular horse killer."

The teeth of our cultivators are usually set too upright, and strike the soil too abruptly. The English scarifier is an improvement in this respect. It is made wholly of iron, and the teeth are not as broad and are set more obliquely. A similar instrument has been introduced into Canada, and I wish some of our manufacturers would get us up something of the same kind. Let us have a scarifier that will work easily and pulverize the soil five or six inches deep.



AN IRON SCARIFIER.

We also need a good harrow. The harrows in common use are miserable affairs. They are mere "drags." There is no flexibility to them. A good modern English or Scotch harrow will pulverize the soil much better and in half the time. I would like a set of three harrows that would take a wide sweep, and so arranged that there would be plenty of "play" to them. By putting on a three-horse team we should get over much more land and save half the labor of a man—which in these times is no small item.

Timothy D. Buck, of Allegan, Mich., writes me asking whether it will "pay to plow in buckwheat on summer-fallow to enrich it for wheat, or is it better to keep it clean." On a good loamy soil, well drained, I certainly would not plow in buckwheat, but on a heavy soil, rather wet, it might be advantageous to do so. The buckwheat would make the soil more porous.

I have a piece of land that was seeded down last spring with oats, and the clover did not catch. The land is not rich enough for spring crops, and I design fallowing it for wheat. One of my neighbors urges me to sow buckwheat on it and plow it in. He says he did so in a similar case a few years ago, and had a splendid crop of wheat.

At the present price of buckwheat it is as profitable a crop as any we can raise. It can be sown in July, after we are through with other crops, and involves little labor or expense of any kind.

Rain, rain, rain. Was there ever such a spring as this? One of the oldest inhabitants in the town says he can not recollect such another one. I have not yet (May 16th) been able to sow my barley. If I can not sow it this week I will give it up and plant beans on the land, and sow wheat after them in the fall.

The winter and spring have been both bad for the crops, and the comparative failure of the great corn crop at the West, and the consequent high prices, have caused great suffering among cattle. The *Tribune* publishes a letter from a correspondent at Dongola, Ill., headed "Between Hay and Grass," which gives rather a gloomy account of farming in the Prairie State. He has just taken a journey through the State, from South to North, and says:

In Southern Illinois the woods usually begin to

look green, and the cattle to find grass enough in the bottoms to live on by the 1st of April. Now, so backward is the season that only a few trees are leafing out, and the cattle find most scanty picking. It is said that many of the forest trees were killed by the cold winter.

Through Central and Northern Illinois meadows just begin to look green, but blue-grass pastures, whether in open woods or prairie, have a fresh look, and cattle thrive well on it. Few common farmers are so fortunate and so wise as to have blue grass. I noticed that many have turned out their cattle into fields perfectly black, where they go through the motions of eating, and some have an additional work on hand—which is, to brace themselves, that they may not fall down. *There is no doubt that there was never before so many poor cattle in Illinois and the West.* Often do they abound in lice, and their owners try all remedies, anxious to learn one which is effectual. The best thing is to card thoroughly every day; for in carding, thousands will drop off. This may be said to be a sure preventive.

Often, on going out in the morning, a creature is found lying down and unable to get up. When food is brought to it it will eat well. If it is not a heavy animal, the farmer and his boys and girls—sometimes the wife—come out, and by lifting and twisting they get the poor thing on its legs; but it shows signs of falling over, and the boys will spread out its feet so that it may have a broad base, or when they would have it walk they lift up its feet. Sometimes it is so weak that it will give a plunge forward, or will settle down upon its legs, when it will helplessly stretch out and sadly roll back its eyes. Fully one-half of such cases are hopeless. But such scenes here were unavoidable this spring, even on common farms, well managed.

The loss of stock has been quite large. I have heard it stated as high as from twenty to thirty head on farms here and there. One main cause for this was a want of a correct estimate of the nutriment contained in frosted corn. Horses here have not suffered quite as much, though many have died, while hogs have died by the hundred.

Perhaps sheep are doing better than any other stock; for where there were only a few they managed to live, though they drop much wool; and where there are large flocks, their owners know enough to take care of them. But large flocks eat much; the corn fed them has had so little heart that more was required than was expected; and some who lost sheep by the hundred in the frost and snow have almost thought they would have made money if they lost more, for the dead sheep were sold to Chicago buyers at from $1.50 to $2 a head.

The regular stock-growers, who for the most part understand their business well, are bringing out their cattle in good condition—some say, never better. They knew they had to do their best. They expect to fatten on grass, and to ship east by June. Those who have stall-fed during the winter have good specimens, and they expect and deserve good prices; but I believe the number of fat cattle is far less than some suppose. One stock-grower in Champaign county assured me there was not more than one this spring where there were fifty last spring. He said, this may seem a wild statement, but it could not be otherwise; since their surplus corn, which makes beef, was swept away by the frost. He related an instance which shows the difference between men who understand their business and those who do not. The case was of a man belonging to a class of what he called "buckwheat farmers," who is tolerably well off, has a large barn and much stock. Last fall he sold twenty tuns of hay at $6, in January, twenty tuns more at $10, and thought he was making his fortune. This spring he has been buying hay far and near at $20, and giving his note, that he may save a part of his stock.

When we recollect that four-fifths of all the cattle sent to New York come from Illinois, we can hardly wonder that beef again advanced one cent per lb. last week. There is undoubtedly a real scarcity of fat cattle in the country.

The same writer says that the farmers are straining every nerve to plant all the corn they have power to cultivate, and a large breadth of spring grains has been sown. Provisions of all kinds are very scarce. "So general is the scarcity," he says, "that I do not believe there is a county in which there are not some persons who are sending to Chicago for provisions. I know of some counties in Central Illinois which used to help overstock Chicago with potatoes, now sending thither for potatoes to plant. Thousands of villages in every part of the State are sending for butter, and when it comes it sells for fifty cents. Hitherto, these same villages have overrun with butter, and being white, at this season, the merchants have been glad to make sales without losing. In the stores of many of these villages eggs were so plentiful that there was one clerk, at least—often it was a hired hand—who did nothing from morning till night but count eggs and pack them. Even last spring, in many places, they were sold for three cents a dozen.

Deacon B. says he sold some corn last week to a neighbor for $1.12½ per bushel. On going to the city, the next day, he was told that it was selling for $1.30 per bushel. Prices advance so rapidly that it is almost impossible to ask enough. I had three calves to sell, and adopted my old rule of fixing the price pretty high, and keeping them till they were worth it. The butchers would ride past and call out, "Any fat calves to sell?" "Yes—three." "What do you want for them?" "Thirty dollars for the three." Some went to look at them, and thought I asked too much. "Very well," I said, "I will keep them till they are worth it." And it was but a few days before one of them came along and handed over the thirty dollars, grumbling a little, however, as the manner is, at the price. He was afraid that if he did not take them, another would.

I have at length got in my barley—and in better condition than I expected. I have given the field a heavy dressing of bones, ammoniated guano and Bradley's superphosphate, and hope for a fair crop, although the season is late. If dry weather should set in, I shall probably be disappointed.

I have, also, at length got my peas covered. I sowed an extra bushel of seed to the acre, and gave them a good dressing of guano and plaster.

FARM WORK FOR JUNE.

CORN FODDER.—Continue or finish the sowing of corn fodder, as described last month. It will succeed if sown any time during the month. It is a great advantage to have a succession for soiling, in the dry part of autumn. By sowing large kinds early, and small or early varieties late, a long succession may be obtained. Any vacant ground may be well filled up with this crop, and if sown in furrows, as already described, and cultivated twice, it will leave the ground, when harvested, clean and in fine condition, and the roots remaining will enrich the land. Hence, the corn fodder crop may be regarded as one of the best for improving the soil.

RUTA BAGAS.—These succeed well on all rich and rather light soils. Unless the soil be well enriched, it will be seed wasted and labor lost. They can not be sown profitably without a good drill which will plant several acres per day. In small experiments the seed may be dropped by nailing a tin cup to the lower end of a cane or stick, perforating the bottom with a small hole, a trifle larger than a seed, and shaking this with the seed along the drill, and covering by raking. This does well for garden crops. Never allow the weeds to become more than an inch high, and thin out the plants to at least one foot apart in the drill, or a foot and a half in very rich land. All novices in raising this crop may be easily known by leaving too many plants, which crowd and diminish each other in size.

Well Cultivated Root Crops.

Root Crops Grown among Weeds.

CULTIVATING AND HOEING CORN.—Every farmer should endeavor to accomplish as much as possible by horse-labor, and save hand-hoeing. To this end the soil should previously be in as clean condition as practicable, and perfectly straight and even rows will allow the cultivator to pass closely to them. More corn will grow on an acre if planted in drills, or in thick rows of hills in one direction; but when labor is scarce, it may be more economical on the whole to plant in hills both ways, unless the land should be unusually clean; the nearer the rows or hills can be to each other—that is, the more evenly distributed the corn is over the ground—the greater will be the crop, other things being equal. One of the best farmers we know, plants his corn three feet each way. His average is eighty bushels per acre; he has obtained one hundred and thirty, with high manuring and best management.

While it is desirable to employ enough hand labor to keep down every weed, the main reliance should be on horse culture—one horse accomplishing about as much as ten men. An excellent practice, which has proved very successful, especially in strong soils liable to become crusted, is to pass the cultivator once a week regularly, from the time it is up until too large to admit a horse between the rows.

Where there are missing hills in the cornfield, replant with an earlier sort, or plant three hills of bush beans to each hill of corn.

WEEDS.—Prompt and energetic destruction of weeds constitutes a prominent portion of the labors of this month. The great point is to take them early, when they are small and feeble. A weed in growing from an inch to a foot in height, increases as the cube, or a thousand fold in weight or bulk, and exhausts the soil correspondingly. Single weeds often produce 500 to 1,000 seeds—sometimes several thousands. Scattering these over the soil occasions necessarily a great increase of labor another year.

HOES.—Procure the very best that can be had in market. The difference in price between a cheap and a good tool may be earned by the latter in a single day. Keeping hoes ground sharp will enable the laborers who use them to perform more and better work.

CLOVER SEED.—The first crop should be cut before the end of this month; or if pastured down, the animals should be removed at the same time.

SHEEP WASHING should be performed as early as the weather will safely admit—and after shearing, special care should be taken to shelter the sheep during cold storms.

If animals become bloated from eating fresh clover, the best remedy is a dose of pulverized charcoal, say a tea-cup full to a full grown cow, and a dose of corresponding size for other animals, according to their weight. The charcoal is best if fresh, or if kept corked air-tight in bottles. It should be mixed well with water, and may be poured down the throat from a junk bottle. Fresh, burning coals from any wood fire, pulverized at once in a mortar, will make a good material, but the article usually sold and made in coal pits is too hard, and generally too old to be good.

ORCHARDS.—Newly set orchards should have the soil well cultivated or mellowed about the trees, and kept perfectly clear from grass and weeds. On the approach of hot and dry weather, a wide and deep mulching of old straw or other litter will be useful. All orchards should be carefully examined for the borer, which, if taken in time, may be easily killed before it has gone far into the wood; even afterwards, by clearing away the powdered wood, the insect may be followed and destroyed in his hole, by a wire or flexible twig. Scraping away the earth from the foot of the trunk and applying soft-soap will serve to repel these insects from depositing their eggs, but is not always infallible.

There are a few other operations that should not be forgotten in time: Destroy caterpillars in orchards; whitewash fences and buildings; on rainy days get harvest tools all ready; provide hives for swarming bees.—*Tucker's Annual Register.*

POULTRY HINTS FOR JUNE.

WRITTEN FOR THE GENESEE FARMER BY C. N. BEMENT.

How many monotonous existences have been made cheerful by the poultry fancy! How many acquaintances commenced in a fellow-feeling in this pursuit have become cemented into lasting friendships! and how many homes have been rendered more attractive by the addition of a poultry-yard, on account of the interesting occupation which it creates, unconnected with profit and produce.

"When we had poultry-shows to go to," says an English writer, "for a little quiet recreation, while emulation and sympathy unite to render a visit to a neighbor's poultry yard attractive, and while our own at home furnishes daily and hourly objects of interest, the amateur's life can never be a dull one; a gleam of sunshine, a shower of rain, a warm wind or a cold one, assume an interest which they did not possess before. There is always something going on—a house must be built, a boundary line altered, the yard enlarged, a defective fence (which served for the Cochins and Brahmas) must be raised to keep in the Spanish, the Hamburgs, the Games and the Polanders. Then, if one home in every town be made more pleasant to its owners; if one family in each be made more united in the love of our pursuit, if one dull life in each be changed into a cheerful one, the great poultry movement may boast a double triumph."

And there is another important matter connected with this poultry subject, not to be estimated in dollars and cents, but of far more consequence than either. It is the social and moral influence they exert, especially on the junior members of the family—more particularly the boys. The tenants of the poultry-yard, with their youngling broods, are the things, of all others, which first catch and rivet the attention and determine their devotion to rural life. By their withdrawing their thoughts from trifling games, vicious sports and indulgences, or idle, worthless habits, a great point is gained towards developing and maturing the future useful member of society.

It is known that farmers' sons are rising to manhood, and they are not supposed to be made up of cold attritions, but have social affinities requiring mental aliment corresponding to the development and nourishment of these affinities. They should live under a genial sun, be fed with refreshing showers, and then receive the care of a most social culturist. The flower and vegetable garden are useful fields, are all-attractive with their varied products of beauty and utility, yet they fail to enlist that sympathy and feeling which attractive animal life affords. What better occupation then, or rather, what better amusement can the boys have than to care for and feed, and watch over the poultry-yard? In this way they may clothe themselves and pay for their books without interfering with the school exercises or any reasonable labor expected from them in other things. If thought desirable, let this be one of their standing perquisites.

Happy for the poor, poultry is just the stock which any of them can buy, feed and rear, however humble their mental capacity may be. The young, the feeble, the halt and the invalid can look after the poultry, as well as the strongest. It is true the poultry department comes more particularly to the care of the "gude" housewife; but the younger branches of the family should take it in hand, particularly the *boys;* and the farmer should furnish the means to obtain the best sorts, convenient houses to keep them in, and not too rigidly guard the corn crib. A few additional ears of corn will pay compound interest; and a leisure hour in providing them comfort will be far from misspent.

Comparatively few who have not the advantage of an extended farm can indulge in the luxury of improved flocks and extensive herds, but almost every one, not closely hemmed in by the brick walls of a city, can gratify their own taste, and excite that of their children, by keeping a few choice fowls. They are preferable to the usual pets, dogs, cats and singing birds; less danger from disease to them; much more variety, more scope for ingenuity in rearing and attending, and we will not add on which side the profit is likely to be. If for no other reason than to interest the children in a useful, attractive pursuit, we would say to any person who has the room, by all means keep some select poultry.

There will be no doubt about the profits of keeping poultry in the minds of those who keep strict accounts; that is, if they manage them judiciously. No poultry-keeper has a right to complain of want of success, if he neglects keeping a regular account of food consumed, and profit by fowls and eggs sold. Without this he is groping in the dark, and the usual termination of such undertakings end in disappointment and loss.

This hint, we imagine, may prove of service to many of those who can least afford to suffer loss by their poultry, and most desire to increase their gains; for, after all, it is only by following out a regular system of management that any person can expect to satisfy himself that his fowls, of whatever breed they may be, do really pay. Many dislike the little trouble it may create, and looking upon it as an insignificant item, are apt to say, when asked for their opinion, "I believe it pays, but cannot speak positively," and are content to go on as before; but at the same time they have no right to be surprised if their calculations neither convince others nor fill their own pockets.

Near large cities most poultry-keepers prefer rais-

ing early chickens, particularly those who rear for market, as they then bring a great price; but it is not all profit. They are some trouble to rear, and many will be lost from inclement weather. The earliest broods of March and April, if well attended and well fed, will be ready for market by the first of July, and will then command the highest price, say from 70 to 80 cents per pair, which pays a better profit than ever after.

But it is the later broods which now demand our attention. As the weather is warm, the mother hens with their little families of younglings should have large, airy coops, and the coops placed abroad; but in all cases a dry and quiet location should be chosen, near the house, on account of the convenience of feeding them, and where the chicks are not in danger of being trodden upon by either man or beast, nor where the hen will be roasted by the heat of the sun, or where there is danger of the chickens being carried off by hawks and crows. It is not a bad practice to place hens with their young broods in the vicinity of the kitchen garden. A hen with a dozen chickens—the hen being confined in a coop—will do more to secure the preservation of the vegetables than a man; they not only obtain the greater part of their living, but are of great service in destroying large numbers of bugs, worms, insects, and their eggs, which are so injurious to vegetation, which they annihilate and convert into a source of profit instead of a loss, by devouring them as food. We have experienced some difficulty, however, in this, for the hawks, and even the crows, would pounce upon them; and where the vegetables such as beans and peas, were pretty rank, the rats will take shelter, lie in ambush, and catch the young chickens, when running among them. It is well to look to these evils, and we would also advise their removal after they are a month or so old, or they will become so attached to the garden that it will be difficult to keep them out.

The coops should not be placed too near each other, as the chickens are apt to mix and get into the wrong coop, and some hens are so cross that they often kill small strange chickens.

At the end of six or seven weeks the hen may be allowed her liberty, after the dew is off in the morning and the weather fair; and if a movable coop be employed, the door may be left open, or it may be propped up with a stick, and the hen will return to it at night of her own accord, when it may be let down and kept so until the dew of the morning is off. At the end of two weeks more they may be turned into the poultry-yard. As they will at first hardly receive fair play in the distribution of food, it will be necessary to prepare for them a feeding-coop, so that they may enjoy their food without being disturbed by the other fowls. This may be effected by driving strips of boards or stakes in the ground, leaving spaces between just wide enough to prevent the grown fowls from entering, encircling a space five or six feet in diameter and about two feet high, covered with boards, through which should be a small aperture or door, where the feed may be put in the feeding-box made for the purpose.

When chickens are confined to a narrow space it requires much pains to supply them with all the kinds of food which they collect when running at large; and without care to supply their wants, they will not thrive well or be profitable. When running at large in a lawn or pasture lot, they devour many insects and grubs, and many kinds of herbage, various sorts of seeds, and many other things which we cannot discriminate, though we look on while they select their food.

To ensure rapid and full growth of chickens, good, substantial food should be given them with a liberal hand; there is no economy in half starving them. Ground oats and boiled potatoes mashed and moistened with milk (if a little soured none the worse) will increase their flesh, while corn will fatten them. The food is a matter of much variety, as various articles are used for the purpose of fattening fowls. In Buenos Ayres they are made quite fat by feeding on the dead horses; it being no uncommon thing to see a hen with a whole brood of chickens coming out of the carcass of a dead horse. The flavor of their flesh must be abominable, and that of their eggs but a little better.

THE PROPER WAY TO BIT A COLT.

FARMERS often put a bitting harness on a colt the first thing they do to him, buckling up the bitting as tight as they can draw it, make him carry his head high, and then turn him into a lot to run half a day at a time. This is one of the worst punishments they could inflict on a colt, and very injurious to a young horse that has been used to running in pasture with his head down.

A horse should be well accustomed to the bit before you put on the bitting harness; and when you first bit him you should only rein his head up to that point where he naturally holds it, let that be high or low; he will learn that he cannot lower his head, and that raising it a little will loosen the bit in his mouth. This will give him the idea of raising his head to loosen the bit, and then you can draw the bit a little tighter every time you put it on, and he will raise his head to loosen it. By this means you will gradually get his head and neck in the position you wish him to carry it, and give him a graceful carriage, without hurting him, making him angry, or causing his mouth to be sore.—*Rarey.*

THE PEA-VINE AND OTHER VARIETIES OF CLOVER.

Eds. GENESEE FARMER: In the April number of the *Genesee Farmer* you have some remarks on clover, and express the wish that "some of your readers would write a good article on the subject." I have experimented with several varieties of clover, and will give the result of my experience in this matter.

The pea-vine or northern clover is a different variety from what is here known as western clover, and the more diminutive southern variety.

A few years since I procured from a brother of mine, residing in Illinois, a bushel of the real simon-pure pea-vine clover seed, a part of which I sowed, and the balance was distributed among a few other farmers. My seed was sown in the spring—a part with spring wheat and a part with oats. The next season I had a prodigious growth of forage—estimated at three tuns per acre. It was mown when in the blossom, cured in cock, and was freely eaten by horses, cattle and sheep. They however, if kept upon it for several days in succession, would reject the large stems, causing some waste. To make the most of such coarse forage it should be run through the hay-cutter. This variety of clover, tree-like, sends off from each stem numerous branches or limbs, each producing one or more heads, which I think is not the case with other kinds of clover. It ripens some weeks later than the western, and may be safely left till timothy or herds-grass is fit to cut. There was not much diminution in the amount of clover the third season it was cut. It retains its hold in the ground much longer than any of the other varieties cultivated here. It has a much longer and larger root than the western, giving a much larger yield of forage; therefore it is probably the better kind "for plowing under as a grass crop to enrich the land than the smaller kinds of clover." The only difficulty would be in *turning under* such a crop as mine was. I saved samples which were over five feet in length, and now have some over four and a half feet high tied to a willow stick. I send you a few inches of one of the big stalks, by which you can judge something of its rankness of growth.

The variety of clover preferred by our farmers is known as *western*. This, on good land, grows sufficiently large for forage, and in favorable seasons gives two good crops—the first for fodder, the second for fodder or seed. The large variety gives but a small after-growth; therefore, if seed is wanted, it must be obtained from the first crop.

The southern variety of clover is short and fine, being a capital winter fodder for sheep, milch cows and young cattle; but the yield is light, and our farmers will not sow it, unless they get cheated into it, as is sometimes the case when they buy it, supposing it to be the western. The next season, however, tells the true story, by the *short* clover and *tall* scolding of the humbugged farmer.

I have experimented somewhat with the Luzerne or French clover, but it takes some three years before the plants get their full growth, and during the time the June and other tough-rooted grasses overpower the Luzerne and it becomes nearly exterminated. The only way it can be successfully grown here is to sow it on land that has been fallowed long enough to cause all seeds of grasses, &c., to be destroyed, and then sow the Luzerne seed and manure with superphosphate, guano, or other manures containing no weed or grass seeds. For soiling and winter fodder it would prove one of the best kinds of plants, if it could be grown entirely separate from other plants that have a tendency to overrun the Luzerne.

I have also experimented with the Alsike or Swedish clover. This seems to be a hybrid, between the common red and white clover or honeysuckle. Several years ago I sowed a few rods of land with this kind of seed. I sowed it too thin, thereby giving room for the growth of other grasses. However, for about three years it did well, but eventually the other grasses nearly rooted it out. The stems are small, yielding a large amount of branches, leaves and blossoms, producing a large amount of honey for bees; and for winter feed for sheep I think no better forage plant can be grown. This kind of clover has been largely grown by some Canadian farmers, and highly spoken of by them.

I have also grown a yellow variety of clover, quite different from any of the foregoing, but not in quantity sufficient to judge correctly of its merits

Warner, N. H., May, 1864. LEVI BARTLETT.

SCOURS IN CALVES.—*Eds. Genesee Farmer:* I have lost more or less calves for several years past from a weakness caused by the diarrhea, or looseness of the bowels, which in a few days would so reduce them that with my utmost skill I was unable to save them. At length I determined to find a cure. After much expense in the trials of many (so said) cures, I found it in the use of the most simple means. I took one-quarter of a pound of the best Rio coffee, (prepared as for table use,) boiled in two quarts of water, and after drenching with one pint at a dose from three to five times, I effected a perfect cure.—JOHN GREER, *Newcastle, Pa.*

NEVER allow weeds to bloom; it is the worst proof of thoughtlessness. One day devoted this year at the proper time will save a month's application next.

NOTES BY S. W.

THE April *Farmer* is a charming practical repertory for both the neophyte and the old stager of the farm. Those "Walks and Talks" are full of interest, from the very fact that they are the coruscations of light brought in by daily practice and farm experience.

The discrepance in the nutriment between poor and fat beef, as shown by the analyses of Lawes & Gilbert, although startling, is nevertheless true. I well remember once drying a ham of poor beef until it was reduced in weight more than two-thirds; no wonder, then, that the analysis showed that poor beef contained 50 per cent. water, while fat beef contains less than 25 per cent. It is not the butcher who loses in buying poor beef, but the consumer; for if the butcher buys water, he also sells water! I have sometimes felt that it ought to be an indictable offence for a farmer to sell lean animals to the butcher; for, in the first place, he unwittingly cheats himself by selling off the bone and muscle of his farm just as the fattening process begins to give him all his profits (ask John Johnston); and then, the poor family who buys the meat is cheated in an innutritious article, containing, as it does, 50 per cent. water.

Your advice to farmers in the grain-growing regions, to pay more attention to cheese-making, would be better heeded but for the constant care and hard work which cheese-making imposes on the farmer's family. Even if the milk is taken to a cheese factory, it takes time and labor daily; whereas, the care of sheep is easy, and the shearing is done in a day. As you say, cheese may be profitably made, of the best quality, on a grain farm; but the same can hardly be said of butter—at least, the butter from the grass regions proper has more aroma and brings a better price to take to market.

I should like to have seen your remarks on that miraculous yield of potatoes, on a thoroughly used-up soil, by the aid of twenty-five bushels of bone-dust to the acre; and what was no less astonishing, the same field the next season, without manuring, produced a monstrous crop of rye, the grass seed sown with it giving a good crop of hay the next year! This throws all your pains-taking experiments with the phosphate of lime into the shade. You must try again.

Your recipe, to grease the nails to be driven into hard, dry wood, is capital; after breaking many in the attempt to re-nail boards on seasoned locust posts, I now never fail. I assure you it is comfortable to have posts of your own growing that not only outlast both boards and nails, but give promise to serve several generations to come.

Joseph Wright will plant another large field of dent corn this season, as it yields him one-third more bushels to the acre than any other variety. Had he been ambitious of taking the State Fair premium for the largest crop, he might have got it every year, and given his competitors twenty bushels, at least. Instead of hauling manure to his fields, he hauls distillery slop and makes the manure on the spot. He has sent off this spring to New York some of the fattest cattle—John Johnston's excepted—that ever went from little Seneca. The first fourteen head sold for $1,946 in New York—$139 each, on the average.

Waterloo, April 18th, 1864.

SEEDING WITH FLAX.

EDS. GENESEE FARMER: Mr. John Scott, in the March number of the *Farmer*, page 97, inquires: "Will timothy and clover catch good with flax?" I would say that for some ten or fifteen years past I have had some little experience in the flax business, and so far as timothy is concerned, I have found flax to be a good crop to stock with—much better than oats. My method is to mix the two seeds together, sow broadcast, and harrow or brush in. With me it has always "catched" better than with any other crop except wheat.

I would also state in regard to flax that I have found it to be an excellent plan to plow the ground in the fall or early winter, and sow the seed as soon in April as the ground will permit. I have usually had better crops both of oats and flax than in any other method which I have pursued.

I would further say in regard to flax, that the farmers in this region, for some fifteen years past, have grown flax for the seed only, and have found it to be a profitable crop; but within the last five years there has been quite a drawback on the crop by the appearance of a vine or plant which, for the want of a better name, we call "Pull-down." It is something entirely new with us—never before known in this section. Last year some of our crops were entirely spoiled and others very much injured. The plant entwines itself around the flax, and as far as it extends pulls it to the ground and entirely destroys both flax and the seed, rendering the balance of the seed less valuable in market. Last year I bought a lot of perfectly clean seed, let it to my neighbors and sowed some myself, and so far as I could learn every piece but one was full of it. I am of opinion that it is not produced from a seed of itself, but springs from the root of the flax from some local or atmospheric influence.

Flax in this section is becoming quite an article of domestic manufacture, and all the old spinning-wheels that have lain by for years—some of which have been sold at auction for a few shillings—are now being repaired and brought into use.

The greatest drawback in the cultivation of flax seems to be the want of a flax-puller. Whoever succeeds in bringing such machinery into successful operation makes his fortune. L. WRIGHT.

Pierpont, Ohio, May, 1864.

REMARKS.—The disease alluded to by our correspondent is undoubtedly the flax dodder, (*Cuscuta epilinum*). It is a parasitic plant, starting from seed in the soil, but soon attaching itself by a worm-like white thread to the young flax. It seizes the live stem by means of a sucker thrown out from the point of contact, and then, twining from left to right, and forming more suckers as it twines, it establishes itself on its victim, and ceases to have any further connection with the soil. From this time it is a true parasite, feeding on the juices of the flax plant.

As it is only an annual, it would be killed if we could prevent its flowering: but this it is almost impossible to do. The only remedy is to plow up the whole crop where dodder appears, and burn it together with the soil. In the *Genesee Farmer* for 1861, page 160, we mentioned a method for destroying dodder, suggested by a French chemist—M. Ponsard. Having learned that dodder contains an enormous quantity of tannic acid, he thought if he could apply something that would neutralize the acid it would destroy the dodder. He watered some Luzerne that was affected with a solution of green vitriol (sulphate of iron), and the effect was all that could be desired. In an hour or two every particle of dodder was destroyed!

INDIAN CORN.

A CORRESPONDENT of the *Prairie Farmer*, after a few remarks on the culture of corn—in which he says that on wet land it should be planted shallow, and just before the plants appear the land should be harrowed to break the crust—waxes eloquent, as follows, on the value of Indian corn:

"With a nominal cost of seed, a range of two months for planting it waits for the sick and the absent—may be harvested almost any time without expensive machinery, is almost indestructable, destroys worthless plants, gives about as much rough feed for all domestic animals, and is unequaled for fattening purposes. The buxom girls and stalwart sons of the West deem it the staff of life when made into bread, and when made into whisky many think it life itself. It supports the poor man's family, the rich man's flask and the merchant's trade. It is the basis of an immense trade in beef, the main pillar of our national prosperity, the golden fleece of America, the staple of the West, the pride of Illinois. From its partial failure last season we more fully appreciate the inestimable value of this splendid gift of the Great Spirit to the Red Man, the jewel of our rich inheritance.

THE CULTURE OF SWEET POTATOES.

J. C. THOMPSON, of Tompkinsville, N. Y., writes as follows in the Report of the Department of Agriculture:

Attempts to raise sweet potatoes have often been defeated by excessive care in preparing the ground, or in not knowing how to preserve them after they are dug. When they are planted in too deep a soil, the tuber runs down too deep, and becomes watery and insipid.

Plants or Slips.—About the first of April put the potatoes in a hot-bed. If they are large, split them lengthwise, laying the flat side down. They may be placed so near as almost to touch each other; then cover about two inches deep with a light, rich compost made of fine sand, manure, and good soil or leaf-mold from the woods. When the sprouts push above the ground add an inch or so of the compost. Water occasionally with warm water; keep the bed warm at night, and on warm days give them air and sunshine, to render them hardy. When ready to set the sprouts may be pulled off, or the potato may be lifted out and the best plants selected, and the potato returned to the hot-bed. A bushel of seed will produce from three to five thousand plants, and every thousand plants which are set should produce forty bushels of potatoes.

Planting the ground.—A warm, sandy loam is best adapted to the culture. Mark spaces three feet apart, merely scratching the ground, for rows, which should run north and south. On the marks spread barn-yard manure with a fork; then turn up the earth with a plow from each side towards the manure, and form a ridge about ten inches high, and finish the ridge with a rake. The base of the ridge, which should be a foot in width, should not be disturbed with the plow. The top of the ridge when finished should be flat, and three or four inches in width.

Plants should be set as soon as all danger from frost is past. I have obtained fair-sized potatoes when planted the 1st day of July, but I do not advise late planting.

Planting on Sod.—Sweet potatoes will grow more chubby when planted on sod than when planted in any other way. Strips of sod eight or ten inches wide may be laid in line on the surface of the ground, with the grass side up, manure strewed on them, and the earth turned up on each side so as to form a ridge, as directed above; or a piece of pasture or meadow may be selected, and the turf used as the base of the ridge to be formed by the plow. In either case manure or rich compost should be used; for, unlike Irish potatoes, these are not injured, but are greatly benefited by manure.

Setting the Plants.—A marker should be used to

prick off the spaces for the plants, sixteen inches apart. A boy is then able to drop the plants in the right places, and the hole is made for setting them. The plant should then be put into the ground down to the first leaf, and the earth pressed gently around it. Care should be taken to set the plants when the ground is moist, and, if possible, on a cloudy day.

After Treatment.—Keep the weeds subdued. Use a hoe or rake, raking upward towards the plants. Where the plants run down the ridges, lift and lay them on the top. Do this several times during the season, in order to permit the sun to act upon the ground.

Gathering and Preserving.—For early use, feel in the ridges, and nip from the stem those that are fit for use, leaving the others to grow. For winter use, after the first frost select a dry, clear day. Cut the vines with a scythe, leaving the stem to which the potatoes are attached three or four inches long, to lift them by. The vines are readily eaten by cattle. Use a fork for raising the potatoes; lift them by the stem, and lay them on the ridge to dry. In a few hours they will be ready to pack. Prepare plenty of dry, cut straw, (old straw is preferable,) and take straw and barrels, or boxes, to the field. Select the best potatoes, handling them carefully, without bruising them. Put a layer of straw at the bottom of the barrel, and then alternate layers of potatoes and straw until it is filled. The potatoes should be placed close to each other, one at a time, and handled as carefully as eggs. The barrels are then to be moved to a dry room or cellar where there will be no frost. If they are placed in a cellar, they must be raised from the floor and must not touch the wall. Keeping warm and dry, is the secret of their preservation. They will keep six or eight months, and improve in quality. From one plot of ground, 89 by 100 feet, I gathered, in October last, 43½ bushels. This is at the rate of 485 bushels per acre.

DASH vs. CRANK CHURNS.

EDS. GENESEE FARMER: "An Inquiring Mind," in the *Farmer* for May, wishes to know why dash churning makes better butter than crank churning. We are unable to answer this scientifically or on scientific principles, but will have to wait until colleges are as plenty for women as for men, before cause and effect, globules and particles can be analyzed, explained and experimented upon by women. But in the meantime we can derive our convictions from observation and practical experience. This, I believe, is the way most of us have to attain knowledge and the truth, which, some how, generally hits nearest right.

The crank churn has too much force inside, or at least those have had that I have seen; consequently the butter is forced too quick, and observation teaches me that butter thus handled soon becomes rancid, and has not at first that sweet taste which is desirable. There may be other causes of which I am not aware.—M. S. B.

CORN FODDER FOR CATTLE.

EDS. GENESEE FARMER: I have had considerable experience in feeding corn fodder on a farm where we kept seven head of horses and twenty head of cattle. I cut the stalks with a two-horse railroad power machine, cutting from three hundred to six hundred bushels at a time. I had a large trough, say ten feet long, three feet wide and two feet deep, into which I put the cut fodder, and then put over it some corn-chop—corn chopped, cob and all. This I mixed and fed out to the stock, and in this way I fed out all the stalks raised on about twenty-five acres, a quantity of hay and soft corn. We had eleven head of steers for beeves, which we got in September, and in April they were scarcely fit to kill. We kept them until July, feeding and pasturing alternately, when we sold them for little if any more than they cost, having only the manure for what feed they consumed and the time and trouble of feeding them.

This, Mr. Editor, you may think was a losing game—at least not a very profitable one. The reader may suggest that there was something wrong. This I admit. I believe in cutting corn fodder for cattle; but it should be fed only while it is in good condition—in other words, before it gets all dried up, say until about the first of February, for I believe that when they are perfectly dried so that there is no substance in them, the cattle do not only refuse to eat them as well, but what they do eat scours them and thus injures their health; therefore I would prefer topped fodder to that cut up by the roots, and if fed while green it is as good as the best timothy hay. Feed in the fore part of winter, and save the hay until spring. Do not have it chopped in the ear—cobs and all. This I know to be injurious. Some people do not believe this, and I have heard of people buying cobs to have them crushed and then mix them for feed. This is on a par with the man who made stone soup. As the story runs, a traveler got out of money and hard pressed for something to eat. He stopped at a house with a stone in his hand which he had picked up, and said he would show the inmates how to make stone soup if they would let him have an iron pot. This was given him, when he asked for a small piece of meat. This was also supplied him. He then wanted some cabbage and a few small potatoes. After getting all of these he made a good repast on his stone soup, but would have done just as well without the stone. So with corn cobs. If you put enough of something else with them, you may have a pretty good mess, but it would be just as good without the cobs—at least this is my experience.

Now as to stabling and outdoor feeding. If you wish to fatten, put up your cattle in a good warm

stable; keep it well ventilated and not too dark; keep it well cleaned; bed your cattle well, and give them plenty of water; then, with a little attention and judgment, you will soon learn how much they will eat. This is necessary in order to feed economically and yet with good effect. One reason why our cattle did not do better, or why I did not succeed better, I attribute to the fact that our steers were kept in the barn-yard all winter, fed cut fodder in a trough at one end of the yard, all loose, and they would chase and gore each other so that some got more than their share, and others less. Their loose feed was scattered on the ground or on the dung pile, and trampled under foot.

Perhaps the reader can see what was wrong and be inclined to ask, Why did you not remedy this evil? Well, I will tell you. I was employed by a man who is not a practical farmer, and yet would not allow me to use my discretion and benefit by my experience. He owned the farm, and insisted upon directing all the operations thereon. In the end he paid dearly for his "experiment," as he called it; and surely it was "experiment" with a grief; for he kept his steers much longer than his neighbors, fed them a great deal more, lost one by over-feeding, and sold them all at an advance of only three-quarters of a cent on the pound! I think I hear some good farmer—some experienced cattle feeder—say, "Served him right—he might have had better luck."

But why do men undertake to farm who actually know nothing about it — why say they can not? I learn from a book. What are all the treatise and essays on farming for if we can not profit by them? This is very plausible, but experience is the best teacher, as faith without works is dead, being alone; so theory without practice is insufficient, being alone. If a practical farmer reads and reflects in his daily practice, he will have a good help in his arduous operations. As Abraham's faith wrought with his work, so a farmer's theory or book learning will be perfected by his practice.

I have given you some of my experience and suggestions, and hope they will not be entirely lost upon others.

D. W. Sampsel.

Northumberland, Pa., May, 1864.

Agricultural Improvements.—Since the days of Sir John Sinclair—the esteemed friend and correspondent of Washington, and one of the great men of the earth—no science has received more general attention than that of agriculture. This at least is particularly true with respect to the past twenty-five years' agricultural experience of our own country. When we look back over that space of years, and contemplate the many improvements in farming which have been made, we have great reason to congratulate our farmers for the spirit, intelligence and good sense which they have exhibited.

WATERING STOCK.

A correspondent of the *Boston Cultivator* alludes as follows to the different methods of watering cattle in winter:

1. Driving them to a brook. This mode of watering was found to be attended with loss. It was ascertained that it required too much time, and caused too great a loss of manure, which would be dropped on the way.

2. Drawing water from a well with a bucket. This was found to be something of an improvement over the previous way; yet this was a slow process for watering a large herd of cattle, especially in stormy or very cold weather, for in such weather they would not be so much inclined to drink. In the spring of the year the water would be so brackish that the cattle would go all day without drinking. This was not according to nature, for they needed water to nourish their systems, and give moisture to their food that it might be more easily digested. In this case the cattle had to suffer, and their owner was the loser.

Again, in place of the bucket a chain pump was used, to see if this would not do the required work at a less expense of labor; but this was found to be no better.

Finally, a spring was looked for, which was found at the distance of 65 rods from the barn, with 15 feet fall. This spring was dug to the depth of six feet, that a greater supply of water might be obtained; after stoning, there was a trench dug, 2½ feet deep by 1½ wide for the pipe, this being half an inch in diameter. The total expense of getting the water to the barn was $52, or 80 cents per rod.

This pipe was laid ten years ago the present season, and all the expense that it has required to keep it in order is only 50 cents; and it has always furnished abundance of water for a large herd of cattle at all seasons of the year.

Often we see the watering trough under the shed, or in some other place where the cattle like to stand. If the person who has charge of the stock is not careful, there will be some of the younger animals which will not get an opportunity to drink as often as necessary, consequently I consider it best to have the trough in the most remote part of the yard, as by so doing the cattle will drink, and then walk away to see if they can not find some more suitable place to stand or lay down. In this way all get what water they require without any extra labor from the person who has charge of the stock. I consider that running water at the barn well pays the interest of a thousand dollars annually.

Foot-rot in Sheep.—The application of double-distilled vinegar and corrosive sublimate is said to be a remedy for foot-rot in sheep.

SHORT SERMONS FOR FARMERS—No. 6.

WRITTEN FOR THE GENESEE FARMER.

And he said, So is the kingdom of God, as if a man should cast seed into the ground; and should sleep, and rise night and day, and the seed should spring and grow up, he knoweth not how. For the earth bringeth forth fruit of herself: first the blade, then the ear, after that the full corn in the ear. But when the fruit is brought forth, immediately he putteth in the sickle, because the harvest is come.—Mark 4: 26-29.

The parables are the most difficult parts of scripture to interpret. They have, by specious, but false interpretations, been more frequently pressed into the service of error than any other portion of scripture, except prophecy. They are not designed to be the first source of doctrine, but to illustrate and enforce the truth which is, in other parts of scripture, revealed in a more formal manner. It is a sound principle of interpretation, applicable alike to all writings, that the meaning of figurative language must be ascertained by that which is literal. Errorists, of all ages, who have been unable to bring the literal to their aid, have resorted to the figurative, because of its greater susceptibility of perversion. The principle of interpretation already stated is so important to guide us in our endeavors to understand the scriptures and to fortify us against the arts of errorists, that no pains should be spared to fix it in our minds and in the minds of our children. Bible class and Sabbath school teachers should understand it, especially since Christian parents throw the responsibility of the religious instruction of their children upon them. The literal is ever to control the doctrinal interpretation of the figurative. We are not to go to the figurative as the first source of doctrinal teaching. A departure from this principle will involve us in false interpretation. It will give errorists scope to propagate false doctrine with apparent sanction of the Word. By departure from this principle the parable of the Unmerciful Servant may be used to sustain the doctrine that there is no necessity, in the economy of grace, of the interposition of a mediator between God and man. The king in the parable pardoned his servant on his own petition, and not on account of any satisfaction made or any mediator intervening. Hence it might be inferred, that in the same way, and without requiring sacrifice or intercessor, God pardons sinners simply on the ground of their penitent prayers. Upon the same principle of interpretation the parable of the sower may be made to teach the doctrine, against the express and literal declarations of scripture, that all men are not naturally totally depraved. A portion of the seed fell upon good ground and brought forth fruit; therefore, some men are by nature, and without the special grace of God, fitted to bring forth fruit unto holiness. There are illustrations of a mode of interpreting parables which has been a fruitful source of error. It proceeds upon the principle that parables are an original source of doctrine instead of illustrations of truth communicated in literal form in other parts of scripture.

The parable in the text may with perfect consistency refer either to the origin and progress of christianity in the world, or to the establishment, growth and perfection of the grace of God in the soul of individual believers. The kingdom of God, as used in the scriptures, sometimes has reference to one, sometimes to the other, and what is said of it in the parable is in other portions of scripture applied to both.

The origin of christianity and the origin of personal godliness are both divine. This is explicitly affirmed as well as necessarilly inferred from the revealed fact of the natural alienation of man from God. With reference to the origin of christianity it is said: "Him being delivered by the determinate counsel and fore-knowledge of God, ye have taken and by wicked hands have crucified and slain. This Jesus hath God raised up; therefore being by the right hand of God exalted, and having received of the Father the promise of the Holy Ghost he hath shed forth this, which ye now see and hear. God, who at sundry times and in divers manners spake in time past unto the fathers by the prophets, hath in these last days spoken unto us by his Son, whom he hath appointed heir of all things." It is clear from these passages that christianity has a divine origin. It is of God. The same is the origin of the kingdom of God within us. "Whom he did foreknow he also did predestinate to be conformed to the image of his Son. I follow after, if that I may apprehend that for which also I am apprehended of Christ Jesus. Being born again, not of corruptible seed, but of incorruptible, by the word of God which liveth and abideth forever." It is not true, therefore, that while God is the author of christianity in a general sense, man is the author of his own participation of the grace of the gospel. He is born of God. But this is done by human instrumentality. It is as if a man should cast seed into the ground. If God had seen fit, he could have revealed the truth immediately to each individual without the intervention of any human instrumentality. But he has adopted another plan. He has committed the seed to prophets, apostles and disciples to be by them cast abroad through all the world. His plan renders it necessary that a class of men shall be set apart to sow the seed of the kingdom. Hence the apostle, speaking of those who are ignorant of the gospel, says: "How shall they call on him in whom they have not believed? how shall they believe in him of whom they have not heard, and how shall they hear without a preacher?"

In view of this divine plan with reference to the

sowing of the seed of the kingdom, the apostle gives this charge to Timothy: "And the things which thou has heard of me among many witnesses, the same commit them to faithful men, who shall be able to teach others also." The things which the apostle taught and which he here charges Timothy to commit to faithful men to teach, were, as he says, "the things that are freely given us of God, which things he spake, not in the words which man's wisdom teacheth, but which the Holy Ghost teacheth." The illustration of man's casting seed into the ground may therefore be applied to those who, under Christ, are teachers in the church.

But my limits in the *Farmer* admonish me to postpone the remaining part of this subject until next month.

A NEW METHOD OF PLANTING CORN.

Mr. Z. Breed, of Weare, N. H., states in the *New England Farmer* that he has raised corn planted in the following manner for three years, and that the result has been so favorable that he can confidently recommend it to his brother farmers:

"After my ground is well prepared by manuring, plowing and harrowing, I drill it one way with a small plow. Into this drill I put whatever of compost or manure is intended for the hill, and mix it thoroughly with the soil with an instrument made by attaching two or three of Share's harrow teeth to a joist four inches square and four feet long, with handles at one end and a hitching place at the other. After this operation the corn is strewn all along the drill at the rate of four to six kernels to the foot. A plow if then used to cover the whole, in soil tolerably free from stones.

"When the corn is up sufficiently to see the rows, the same little plow is run on either side of it, turning a furrow from the corn. In a week or so a cultivator is run through and the soil is again leveled. When it gets up a little too big for the crows, and the worms have got their share, with a dextrous use of the hoe it is thinned to about eight inches, and left standing in as straight a row as possible. When ten or twelve inches high the same little plow is used to turn a furrow against either side of the corn. With a little practice the weeds may be nearly all covered and destroyed. I have actually raised a good crop of corn and not used the hoe at all, and at harvest one could not find three bushels of weeds to the acre."

How to have no Weeds to Pull.—Stir the ground often, and they will never get big enough to pull. A loose top-soil can be stirred up a half-dozen times with a hoe in the time required to go over it once in the pulling process. The growth of all plants will also be greatly promoted by stirring the soil often.

LIST

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AGRICULTURAL IMPLEMENT MAKERS

In the United States and Canada.

[Prepared expressly for the Genesee Farmer.]

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* See advertisement.

HILLING INDIAN CORN.

A CORRESPONDENT of the *Germantown Telegraph*, speaking of the practice of hilling corn, says: "Constructing large, conical hills, on land which is light and dry, must inevitably tend to increase the effects of drouth, inasmuch as it exposes more surface to the atmosphere, and consequently increases serification at times when all the moisture contained in the soil is required for the support and sustenance of the plants. When rain falls, the conical hill conducts the water from the roots to the center of space between the rows and hills, very little of the fluid being retained about the plants, or within range of the small roots, by which the *pabulum* is taken up by the growing plants, and without which they would immediately languish and decay. On light soils hilling is always disadvantageous to the crop. Every fresh stratum of earth placed over the roots causes a protrusion of a new set of laterals, to the detriment of those previously formed. This exhausts the energy of the plant, without increasing, in any great degree, its powers of appropriating food from the surrounding soil, as the first-formed roots cease to grow as soon as those caused by the deposition of new soil are developed, and in a short time will be found to have lost their vitality and become mere worthless appendages."

ALL grain crops should be harvested before the grain is thoroughly ripe.

GARDEN WORK FOR JUNE.

Most garden vegetables are now planted and growing, and the great work of the summer months is to keep them growing as rapidly as possible, and at the proper season, to gather such as are ready for use.

To promote the rapid growth of vegetation, nothing is more efficacious than the frequent stirring of the soil. The gardener can better afford to dispense with manure than with the hoe. In fact, viewed in one light, weeds are the gardener's real friend, inasmuch as they *compel* him to keep the hoe in motion.

With a deep, mellow, underdrained or naturally drained soil, and the *hoe*, the *digging fork* and the *cultivator* we can almost defy the severest drouth. The most profitable season I ever experienced as a market gardener was the driest one I ever knew. While vegetables in neglected gardens dried up, creating a good demand, by keeping the *agitators* of the soil at work, I realized fair crops.

Asparagus.—It is well to cease cutting asparagus by the middle of June; otherwise you may weaken the roots too much. In preparing it for the table, the blanched portions of the stalk, if used, should be peeled, or they will be tough.

Beets.—The Long Blood may be sown for winter use, and the early sown may be thinned out and used for greens.

Cabbage and Cauliflower—May be transplanted the early part of the month for fall, and the latter part for winter use. The *early* varieties may still be sown, and transplanted next month into plots from which early peas, lettuce and radishes have been removed.

Carrots.—Sow early in the month the Long Orange or Long White, and in the latter part the Early Horn.

Celery—May yet be sown for winter crop. Those plants pricked out of the hot-bed last month should be planted in trenches the latter part of June, four feet apart and one deep, made very rich and mellow.

Sweet Corn.—Plant until the middle for succession. Hoe the early planted well, cutting up the weeds, stirring the entire surface, but not making much of a hill.

Cucumbers—May be planted any time during the month for pickles.

Egg Plant.—Transplant early in the month, and if sunny, shade for a day or two and water.

Melons. It is too late to plant melons, but hurry forward those planted last month, by means of the hoe. Liquid manure may be applied to most plants with good results. The hoe should be used soon after. Water saturated with any concentrated manure, such as droppings of the hen, the hog, or guano is called liquid manure.

Okra—May be planted the very first, and that planted last month thinned.

Peas.—Sow early sorts for late summer use and for seed, as the bugs will not infest the late sown. After the middle the early varieties should be fit for the table. Do not pick them until the pods are filled, and do not tear the vines, as they generally admit of two or three pickings.

Parsnips—May still be sown early in the month. A deep, mellow soil is essential to produce long, straight roots, free from branches.

Sweet Potatoes.—The first half of June is the proper season for transplanting the plants of sweet potato. They are very sensitive to cold, therefore should not be put out until all danger from cold winds, as well as from frost, is past. A light, dry, sandy soil is requisite to produce dry, fine-flavored tubers. If to be planted in hills, mark out the ground three feet each way, put a fork full of stable manure to each hill, and raise a hill twelve or fifteen inches, with a flat top, on which set a plant. The ground should be left *hard* under the hill, to make short, thick potatoes. If to be planted in drills, throw up ridges three feet apart, first scattering manure along the marks pretty freely. Eighteen inches is the proper distance to set the plants on ridges. The Nansemond is the only reliable variety to cultivate at the north.

Radishes.—Sow for summer use Long White Naples, White Summer Turnip, Yellow do. do., and Grey do. do.

Rhubarb.—If you have a surplus, it can be cut up and bottled or canned for winter use. Allow no stalks to go to seed.

Squash.—The late varieties may be planted the very first of the month.

Tomatoes.—Good, strong plants may yet be transplanted. Hoe frequently, drawing a little dirt to the plants every time to support them.

Small Fruits.—In the month of June we begin to realize the luxury of some of the small fruits. The others will require a little more care and attention before they yield up their delicious treasures.

Currants—Will begin to ripen the latter part of

the month. They should be gathered as soon as ripe for jelly, but are better for eating and table use when dead ripe. In the meantime give them an occasional hoeing and cut out all superfluous shoots.

Raspberries and Blackberries—Will show a disposition to throw up numerous shoots. Leave half a dozen of the strongest canes for next year's crop, and treat the rest as weeds, unless required for new plantations.

Gooseberries—Will be benefitted by mulching.

Grapes.—Pinch out superfluous shoots, and tie up such as you wish to grow. A cane kept tied up in a perpendicular position will grow much faster than in a horizontal one.

Strawberries.—Now is the time for participation in this most delicious of small fruits. Give the vines a last hoeing, and when they commence ripening, mulch them with cut straw, tan-bark, or any kind of litter. This will keep the berries clean and the ground moist, and so prolong the bearing season. If mulched earlier it will retard their ripening.

R.

FRUIT CULTURE IN THE WEST.—NO. 2.

WRITTEN FOR THE GENESEE FARMER BY D. C. SCOFIELD.

SAID a fruit-grower of long and tried experience once to me, "The markets can never be well supplied with pears." This was rather prophetic, and thus far has proved too true. The heavy loam and clayey soil of the timber lands of the prairie world, as well as the subsoil, is as well adapted to the growth of the pear tree as any soil on the continent; and the failures have usually been from causes other than the soil. That the pear tree needs protection from the sweeping prairie winds, is no more a fact than that the apple tree needs it. On the open prairie, by the side of my apple orchard, stands my pear orchard, of thirty varieties, which has not suffered half as much as the former. My land, though naturally dry, I underdrained to the depth of three feet, using the subsoil for a compost with the surface soil, in which to plant the tree. A part of the ground I prepared by digging a hole four or five feet wide and two or three feet deep, and then boring with a post auger three feet deeper to the gravel, filling the latter with cobble stones or nursery brush, thus completely underdraining every tree, filling the large hole with a compost of the subsoil and surface, with a reasonable quantity from the manure compost heap. Nothing but rabbits and blight has disturbed them. To protect the bodies of the trees from rabbits and the "bark blight," (by frost or sun, or both, or neither,) I tie around the tree in the fall rye or other straw, threshed with a flail.

The pear tree requires *stronger* feed than the apple;—hence, from the piggery or hennery the best fertilizers are obtained, which, when the tree commences bearing fruit, should be annually applied, as in the case of the apple. In the absence of these, any other farm manures may be used. Poor, indeed, will be the success, and grand, indeed, will be the failure, if this part is neglected.

I once knew two pear trees which stood in an open field and grew moderately for nearly thirty years, as their history had it, without bearing a single pear. At length the occupant placed his buildings so that the trees received the "wash" from them. The result was, as he (J. T. Hammond) told me, that he received from the sales fifty dollars a year for fourteen consecutive years. Rather profitable trees.

The pear, like the apple tree, should be pruned when young, and ever after continued, never leaving a limb to grow the second year that should ever be removed. Henry Ward Beecher tells of a pear tree in Illinois, about ten miles from Vincennes, Indiana, that bore 184 bushels in 1834, and 140 bushels in 1840, of large sized pears. One foot above the ground it measures ten feet in circumference, and nine feet above, six and one-half feet, and its branches spread over a space sixty nine feet in diameter. It is said to be about fifty years old. Other pear trees, in New York and vicinity, now live which are over one hundred years old, and of extraordinary productiveness. Although these are exceptions, yet they are evidences of the great value of the pear tree under favorable circumstances. But while we secure such longevity and productiveness to one tree, we may lose a hundred.

I think the method of Mr. Barry, of Rochester, N. Y., a good one: in *all* cases where a pear tree fails he immediately plants another in its place.

Leaf blight is an enemy as destructive to pear trees as the yellow fever is to the human family. When it attacks trees, no matter of what variety, *death* is the immediate consequence to all that part touched by it. The leaves die as if scorched by fire, the branches are withered, dead and rotting, the fruit withers, and the destruction is complete and without any known remedy. Prof. Turner, of Jacksonville, Ill., says it is caused by a very small insect, invisible to the naked eye, "so small that a million of them may walk abreast on the edge of a razor." Quite small, indeed. If an insect, it sweeps along unseen in the atmosphere, and where it touches it destroys. The "insect theory" is the most rational, for if it were the common atmospheric influence, then the entire tree would in all cases suffer at the same time, which is not always or often the case. Often a single limb will be attacked and all the rest of the tree remain untouched. Again, a single tree in the midst of others of the same variety will be partially or wholly destroyed, and the rest remain

unharmed. Such was the case in my orchard last summer, (1863,) in the midst of my most hardy varieties, among which was the Flemish Beauty. "One would be taken and the other left." Yet we say, with Mr. Barry, to every man who loses a pear tree, to plant another in its place; or, if he has *none*, to plant them at once. No man should be so indifferent to the blessings that Divine Providence has placed within his reach as to neglect to provide it for himself and family, and for generations following him.

Cherry Culture in the west has met with sad reverses. Most of the varieties of the heart cherries have proved a failure north of the latitude of 40°, and we have learned to cultivate such varieties as do succeed well, which are of the Duke and Morello families. Though not so sweet and delicious, yet they answer to the "roll call" every time. The Early Richmond, for an early cherry, stands at the head of the list. These are as hardy as any of the family, producing crops from very young trees, and very abundantly.

Four or five varieties form a succession of this fruit from June till August or September, and are cultivated with less trouble and risk than any of the tree fruits.

The soil for the cherry should be similar to that for the pear—namely, a strong mixture of loam with the surface prairie soil. The surface of the ground should be kept clear from all vegetation, and when practicable, where the poultry or pigs may destroy every living vegetable, and also all insects that sting the fruit and therefore render it valueless. All may have abundance of fruit who will take the trouble to plant trees.

The cultivation of *Plums* in the West has not met with the success that could be desired. In a country where such a great variety of native plums abound, it was very natural to suppose that the cultivated plum would flourish in proportion. But this is not the case. Success is the *exception*, not the rule. So general is the failure, that the Doctors of *Tree*-ology are not able to furnish an antidote. Where success is had it is generally on the loamy or clayey soils. As the native plum tree generally succeeds when transplanted, it will be well to transplant and graft them with the improved varieties. The properties derived from the application of salt to the soil near the tree has proved very beneficial in the cultivation of the plum at the East, and we do not see why it may not prove valuable on our prairie soil. With the use of it two years on our trees we have derived no benefit.

The *Quince* is nearly a failure in the West north of the latitude of Peoria. Those who desire to raise it should prepare for it some protected location in a rich, moist place, where vegetation can be entirely subdued by some artificial covering of the soil.

Peaches can not be successfully raised north of Joliet, yet occasionally we find them as far north as Wisconsin. Last year (1863) was favorable for the peach crop where there were trees, and had the country been well supplied with trees doubtless there would have been a good supply of this fruit. Yet its successful cultivation must of necessity be confined, with few exceptions, to a latitude farther south. Egypt or South Pass, in the southern part of this State, has become noted in all the fruit world for its peculiar adaptation to fruit-growing, especially to the production of peaches. There is a small region of country of high hills and bluffs, through a notch of which the Illinois Central Railroad passes, which thereby derives the name of "South Pass." These high lands are covered with a growth of timber, and are elevated above the frosts that so commonly invade the low land of the prairie country, and the woodland and bluffs afford protection from the western gales. Here, doubtless, is to be the great central fruit region of the West. It is said that the markets of Cincinnati and St. Louis are supplied with strawberries two weeks earlier from this point than from their own vicinity.

Apricots and *Nectarines* must necessarily find a place south of the latitude of Central Illinois.

The *Grape* is doubtless destined to occupy an important place in the pomology of the West. Along the rivers and protected localities, the Isabella, and even the Catawba, arrive at considerable perfection. But the new, early, and hardy varieties find a home here. The deep, rich soil of the prairie country affords an abundant supply of nutritious qualities adapted to the grape. The Hartford Prolific and Delaware are doubtless to take the lead; next, the Concord, Diana, &c. While we would encourage the cultivation of this fine fruit, we would by no means desire that so much of it should be grown as to entail the curse that has fallen upon some of the vine-growing and wine-producing countries of Europe.

To prepare a border for vines, the same preparation of soil should be made that is required for the pear. Nothing pays better than the expense of preparing for the grape-vine. Where drainage can be had, I would excavate a place six feet in diameter and four or five deep, and fill it (after throwing in a few bushels of bones) with a rich compost, and then plant the grapes. Perhaps no fruit-bearing vine or tree endures longer or produces more than the grape, with proper training. It is said that a vine now stands by the old Tower of London that has stood there for centuries. Its roots have found their way among the old ruins of former ages, and it produces a tun of grapes annually, which at ten cents per lb. would amount to $200.

The smaller fruits are produced in great abun-

dance here. The *Strawberry*, especially Wilson's Albany, has been introduced, and has become a leading fruit. As yet no variety has equaled it in productiveness or value as a market berry. Under a good cultivation it produces more than two hundred bushels per acre, and always finds a ready market. An expert picker will pick ten quarts per hour. The plants should be set in rows, three feet apart one way and eight to twelve inches the other. The ground requires a deep, rich culture, and to be kept clean. Hooker's Seedling and some other varieties should be planted for family use.

The *Raspberry* and *Lawton Blackberry* require a mixture of loam with the prairie soil, and the plot on which they stand to be kept clean and thoroughly covered with mulch, so that the surface of the ground will not become dry, and then immense crops are secured.

All these varieties and kinds of fruit should have a slight winter protection; the strawberry by a slight covering of corn-stalks, and the others by bending them down and covering with straw or stalks.

The *Currant* in all its varieties is alike valuable East and West; but as an early bearing fruit in a country newly settled, is of immense value, as it never fails to produce a crop of fruit which supplies the place of all other fruits, and is a very good substitute, and conducive to health. It should be in rows, three feet each way, and receive a clear culture and annual manuring. The most productive and most valuable varieties are the Red and White Dutch.

The *Gooseberry* is also valuable here, the Houghton Seedling being the only really valuable variety. It should be supported by trellis-work, so that it may not lie on the ground, to which it has a natural tendency. No fruit bears earlier or more abundantly.

Having thus presented to you a brief view of the present state of *Fruit Culture in the West*, with suggestions relative to the soil and mode of cultivation, if it should advance the fruit-growing interests of the West as well as of the East, we shall feel abundantly remunerated for our labor.

Elgin, Ill., May, 1864.

"PRUNING IN JUNE" is recommended by an experienced correspondent of the *Genesee Farmer*. Give it a trial. We intend to do so. The general opinion is that pruning at this season *weakens* the tree. If you have vigorous growing trees that are inclined to make too much wood, pruning at this season, by checking their growth, will have a tendency to throw them into bearing. Northern Spy trees, which, as a general rule, are very tardy in coming into bearing, might, if they are in a vigorous condition, be pruned at this season to advantage.

JUNE THE TIME TO PRUNE FRUIT TREES—No. 2.

WHY SHOULD WE PRUNE?—In considering this question, we should remember that fruit and fruit trees have been brought to their present state of excellence by constant care and culture; that few, if any, of our best fruits were at first of much value. It is said that the peach, the most excellent of all, was only a bitter almond. The apple, when allowed to grow wild, has seldom produced good fruit. *Culture* has changed them to what they now are; culture and care have refined their nature, and this same culture and care should have no intermission, if we would attain success.

The knife—the pruning hook—has been a potent instrument in the hands of man in bringing about this refinement, and it becomes us to know *when* and *how* to use it.

Trees are of different habits. Some are inclined to grow to wood, and their tops present a thick mass of limbs, with very little fruit, and that of an inferior quality. Such should be thinned out and cut back in order to reduce their wood buds and throw the strength which tends to them into fruit buds. Others are too erect or upright in their habits, and may need cutting back to give them a more spreading head. Others are not well balanced, which fault may be corrected by pruning. There are other reasons *why* to prune; but they may more properly be considered under the head—

HOW TO PRUNE.—The tree, as it comes from the nursery, should be pretty much robbed of its top, in order to retain an equilibrium between its power to furnish and its demand for nutriment—which power was necessarily impaired in transplanting.

The pruning should not be all made from the bottom upward, but the top must be cut back, so as to commence the formation of the head not higher than your shoulders. Three or four main limbs, on opposite sides, should be left as the foundation for the head of the tree. If more are left let them be taken out the next summer, in June. All limbs should be cut back at least one-half, and every cut should be commenced on the opposite side from the bud (even with its point) which you desire to continue as the prolongation of the limb. This bud then becomes the terminal bud. The knife should be drawn with a little slant upward, coming out a little above the bud. The terminal bud, as a general rule, should be on the outward side of the limb.

The tree will now need but little pruning until the third season, when you can begin to calculate upon the form it is inclined to take. If one side is disposed to outgrow the other and is heavier, thin it out and cut back rather close, while you cut back the other lightly. If disposed to be too upright, cut them back heavily, bend and fasten them more hor-

izontally, making an incision lengthwise on the upper side. *Calculate whether the limbs will be too thick together when they come to be large, and remove them while small.* Let this rule be constantly borne in mind and applied to practice, year after year, and you will avoid the necessity and the injury of cutting off large limbs.

Allow no surplus wood to grow, and no sap sprouts, to rob the fruit of that nourishment which it needs. Make the top open, so that the sun may penetrate.

Crossed limbs and those that interfere must be cut out; also, thorny, scrubby and dormant limbs. Let your tree be so open that the limbs will not whip together and chafe by the wind. Use a fine saw, or some instrument that will cut smooth. Do not use an axe or a hatchet.

Every limb has a joint—(if I may be allowed so to call it)—an enlargement where it joins another. At the smallest point just above this take it off smooth and clean; do not allow it to mar and tear down the bark.

Prune at any time after the middle of May until the last of August. *Prune in June* and you will be satisfied that it is the best time.

E. D. WRIGHT.

Pierpont, Ohio, May, 1864.

PLANTING, PRUNING AND TRAINING THE PEACH.

EDS. GENESEE FARMER: The most important things in relation to a tree for planting, are: first, its vitality; and, second, its symmetry;—for if dead or dying, it is, of course, worthless; and if the trunk is not in good proportion, it can not sustain the requisite amount of branches to produce a maximum crop of fruit. If the branches are too much on one side the sap can not flow evenly; and if left to itself, the deformity increases with its growth, and it becomes, not only unsightly, but more liable to destruction from storms.

The best shape for all fruit trees is doubtless the pyramidal. The length, size and weight, then, of each limb is in proportion to the size of the main stem at its base, and there will be no forks liable to split the tree when loaded with fruit. Pear and cherry trees take this form naturally; peach, apple and plum not so readily; but these latter, with a little judicious care, while young, may be made to take this form very nearly. The peach, being of rapid growth, needs the most constant care for the first two seasons after planting, and I will take it for a text and give you my ideas of its pruning and training.

The peach, like the grape and some other of the small fruits, but unlike most trees, *bears fruit only on the shoots of the last season's growth*, and the tendency of its sap is strongly to the extremities; consequently, when left to itself, the fruit is left at too great a distance from the base of the limbs for the branch (with its very brittle wood) to sustain a good crop of fruit, especially after a few years of bearing. Unlike most other trees, too, it puts out no secondary branches, except from the present or last season's growth.

These facts explain why this tree is so often broken down, and should be constantly borne in mind in pruning and training. Peach trees for planting should be at two years' growth from the pit, and one year from the bud. If they have been raised on a deep, dry, sandy soil, the roots will be very symmetrical, and of the pyramidal form reversed. In this case, I cut off the tap root to six or eight inches, in order to increase the lateral roots. Having been usually raised in crowded nursery rows, the stem is very apt to be in the form of a bow, slender, and the branches sparse and weak. The most judicious pruning that the tree can have at planting is to *cut off every limb at its base and shorten in the top to a length in proportion to its diameter at the root*, taking care not to cut the limb so close as to injure the bud at its base. The tree will then throw up a strong leader from each terminal bud, and plenty of lateral branches, from which you can make your selection for the future skeleton of the tree. It now having plenty of room, the branches will be more stocky, and of more uniform size; and if any one is taking more than its share of sap, it is readily seen, and can be stopped by nipping at any time during the summer.

Another peculiarity of the peach should also be borne in mind at planting. It is more sensitive to the influence of the winds than most trees, and the winds of summer being mainly from the west, you will find that in the Northern States—and perhaps more particularly in this State—that the tops of the trees point to the east; the limbs are longer and more depressed on the east side, with a constant tendency of the tree to lose its balance. To counteract this tendency, at planting I set the tree with the top pointing to the west; in the summer pinching I am careful to keep back the east branches; and in the spring pruning, "which should be done when the buds first swell," says Barry, I cut the east limbs to an upper bud, the west ones to an under, and the north and south ones to a west bud—bearing in mind another peculiarity of this tree, which is, to throw its branches at a more nearly right angle with the stem at its base than most other trees. Having in mind these peculiarities and tendencies, the advantages of spring shortening-in will be readily seen, as it makes the limbs more steady, the tree takes up less room, is more perfect in its shape, the branches are more upright and less in the way of cultivation, the weight of the fruit is

nearer the trunk, and I have good authority for saying that it trebles the length of its life, increases the amount, size and flavor of the fruit, and protects it as well from injury by the winter storms.

The second summer the same system of pinching the rampant branches, and the same shortening-in the next spring should be followed. You then have the foundation for your tree, and may then decide whether to continue the operation annually thereafter. The labor will be increased with the increased size of the tree; but if it bears well, which you may hope it will, the third or fourth season after planting, if the climate and season be favorable, you will not grudge the increased labor. If you follow this system of shortening-in you will find too many limbs coming out of the main stem. True, the surplus ones will die out of themselves, but not always the ones you would choose to spare. It is better at the spring pruning to cut out so as to keep the head open and preserve the symmetry of the tree. S. B. P.

Muskegon, Mich., May, 1864.

HORTICULTURAL ITEMS.

Prepared for the Genesee Farmer.

THE gooseberry and currant caterpillars are again on our currant bushes, and unless checked will soon strip off the entire foliage. They begin at the bottom of the bush, and seem to prefer the leaves on the young suckers. If attended to in time, the removal of these suckers would destroy hundreds of caterpillars and the little beet-like eggs which may be found neatly glued on the under side of the leaves. The removal of the suckers, too, and of all branches that are not bearing fruit, will strengthen the bush and give us larger fruit, by throwing a greater supply of sap into the fruit-bearing branches. The remedy which we have for several years recommended in the *Genesee Farmer* will be found effectual if faithfully applied. This is simply to dust the bushes with *hellebore* powder, which may be otained at any respectable drug store. Half a pound, costing not more than fifty cents, will be sufficient for a large number of bushes. As soon as the hellebore touches the caterpillars they curl up and drop from the tree. The plan we have adopted is, to first syringe the branches with a decoction of tobacco and soap-suds, and while wet to dust on the hellebore from a common dredging box. Lime, if repeatedly applied, throwing it as much as possible on the under side of the leaves while the dew is on in the morning will greatly check the ravages of these pests. It is not too late to attend to this matter now, as there are two or three broods in the course of the season.

WHALE OIL SOAP is a sovereign remedy for the rose bug. Put half a pound in a pail of boiling hot water and stir it till it is dissolved. Pour this into two or three pails of soft water and syringe the bushes with it. You will in a few days be astonished at the glossy and healthy appearance of the leaves, and will be abundantly rewarded for the slight trouble and expense. Tobacco water—or better still, if you have any means of confining it around the bushes, tobacco smoke—will destroy the aphides which suck out the juices from the leaves of roses at this season of the year. They are a great nuisance unless attended to, but are easily destroyed. If you have not tobacco, try soap suds.

THE "PEAR BLIGHT" continues its ravages, especially in this section and parts of the Western States. In New England, and in the eastern counties of this State and New Jersey, it is seldom seen. We still think that the cause of this disease is a fungus generated in the soil, from old decaying roots, chip manure, &c. There is no remedy except to avoid planting on soils where trees have been grown, and where the old roots are still in the soil.

IF not already attended to, it is not yet too late to mulch strawberries. The clippings of the lawn, or grass of any kind, makes an excellent mulch for this purpose. It checks evaporation from the soil, checks the growth of weeds, and keeps the fruit clean. Cut off the runners and throw the whole sap into the fruit.

THE long-legged, spindling tomato plants so freely offered for sale in the city, must be poor things to plant. They look large now, but a small stocky plant, that has been transplanted once or twice, and is finally removed with a good ball of earth round the roots, will produce earlier and better fruit. The same is true of cabbage, cauliflowers, celery, &c. If you want good plants, let them be pricked out while young from the seed-bed into a nice warm border, in rows three or four inches apart each way, and when they are well-rooted and are strong, stocky plants, give the ground a *thorough* watering, and then remove each plant with a ball of moist earth round it, and they will not miss the moving. They will be earlier and better than much larger plants set out without previous transplanting. It also affords an opportunity of throwing aside any that may be attacked by grubs at the roots. A good place to plant early cabbage and cauliflowers is between the rows of peas. The peas, if poled, afford some protection from the hot sun.

USEFULNESS OF MOWING WEEDS.—In the month of June weeds are in their most succulent state; and in this state, especially after they have lain a few hours to wither, hungry cattle will eat greedily almost every species. There is scarcely a hedge, border or nook, but at this season is valuable; and it must certainly be good management to embrace this opportunity, for shortly they will become nuisances.

Ladies' Department.

ECONOMY.

These are stirring times. Ruin stares us in the face, and our great Republic lies bleeding at every pore. But if we all conclude to strengthen instead of weaken her in this great affliction, she will survive gloriously. Upon women the practice of this economy necessarily devolves; and this must be done by strict economy in family affairs.

Women, too apt to consider their own weakness, look with amazement at the Alpine events with which they are surrounded, and content themselves with sewing for the Sanitary Commission or F[illegible] Association. This is well. But there is a[illegible] duty at every woman's door, and that is econ[illegible]. Do I say, "Look at ——. In spite of the[illegible] their balls, their music, dancing and dre[illegible] furniture, fancy horses and carriages." Nero fiddled while Rome was burning. Our land is being wasted and drained of her resources by a desolating war, and shall we, by trifling, make those resources less? Besides, as in the Revolutionary days, they were suspected of disloyalty who were filled with British gold; so may we not suspect those are none too loyal who are thus squandering our nation's honor—our nation's waning wealth. Then let economy be the watchword of our republican principles, and let us remember that we are truly serving our country when we economise carefully and persistently in our personal and household expenditures.

A thousand things and ways before unthought of will these stirring times bring to light. Alter that old dress, and it will be as good as new; and we shall hear no more of "nothing to wear," of nothing to do. Never mind the extra feather or flower while yonder hospitals are filled with maimed youths and the groans of the dying. Leave them until the sighs of the sorrowing and heart-broken are echoed back no more in our land. Transform your old things into new, if you can; if not, yonder lies the crouching, naked contraband. Over and over again has our house submitted to a "raid" for them, thinking surely now there is nothing more—but another bundle comes! And as Bridget in the kitchen has been warned to save the pieces, she exclaims: "And it ain't the like of ye that will be after eating them." "We will see to-morrow," I reply. To-morrow comes. "Well, Bridget," how is the meat pie, and the custard pudding?" "Oh! bootiful, marm."

A strange fancy such people have. They deem none but the wasteful can be the aristocracy. Is it education, or what is it, in our poor, that renders them so deficient in tact, or "looking ahead," as the phrase is?

One of a benevolent committee, in New York city, states that an aged woman, who was, as she said, very poor, but who, somehow, could find enough tobacco these hard times to keep herself enveloped in smoke, applied for assistance. It was granted; and on calling upon her a short time afterwards to see how she got along, she was found eating breakfast, surrounded with a multiplicity of good things, including both tea and coffee, although there was none but herself—thinking, she said, she would have *one* good meal!

Who can calculate the results of a lifetime had this woman been economical! Many are the ways and incalculable the value of economy in the household—that province where woman reigns, and where she thus has it in her power to administer an economical government of such vast importance to homes, and through them to our country. The avenues of waste are many and wide, and waste assuredly brings want. Then let us, in these days of darkness, "with scarce a silver lining," study more the science of economy, and thus reap the benefits of this season of adversity.

Aurora, N. Y., May, 1864. M. S. B.

ORIGINAL DOMESTIC RECEIPTS.

Contributed to the Genesee Farmer.

Muffins.—One quart of milk, three eggs beaten seperately and very light, one-half teaspoonful of salt, flour enough to make it a little thicker than ordinary batter, butter the size of an egg, and one heaping teaspoonful of soda and three of cream-tartar.

Cottage Pudding.—One-half cup of butter, one-quarter cup of sugar or none at all, one egg, one pint of flour, one cup of sweet milk, one spoonful of soda, two spoonfuls of cream-tartar. If sour milk is used, use only soda. Bake and eat with sauce.

Lemon Pie.—Grate one lemon, using only part of the rind, three eggs beat seperately, one cup of sugar, a piece of butter as large as an egg; add the whites of the eggs and a teacup of milk when ready to go into the oven. Bake in a crust.

To Make Cream Pan Cakes.—Take the yolks of two eggs, mix them with half a pint of good cream, two ounces of sugar; rub your pan with lard, and fry them as thin as possible; grate sugar over them, and serve them up hot.

Pudding Sauce.—One-half cup of sugar, two cups of butter, rubbed together very thoroughly. Wine or brandy to your taste, put in drop by drop. Warm it in a tin set in boiling water until it froths, without stirring.

Omelet.—Four eggs, a tablespoonful of flour, a cup of milk, pepper and salt and a little butter. Pour into a spider or any small iron dish. Put it into the oven and cover it with a tin cover or with a plate.

White Cake.—The whites of twelve eggs, five cups of flour, one cup of butter, three cups of sugar, one cup of sweet milk, one teaspoonful of soda, two teaspoonfuls of cream tartar.

Cookies.—One cup of sugar, one-half cup of butter, two eggs, one-half teaspoonful of soda put into a tablespoonful of sour milk, carraway seed, and flour enough to roll it out.

Miscellaneous.

LITTLE BY LITTLE.

One step and then another,
And the longest walk is ended;
One stitch and then another,
And the largest rent is mended;
One brick upon another,
And the highest wall is made;
One flake upon another,
And the deepest snow is laid,

So the little coral workers,
By their slow but constant motion,
Have built those pretty islands
In the distant dark blue ocean;
And the noblest undertakings
Man's wisdom hath conceived
By oft-repeated efforts
Have been patiently achieved.

It is odd to consider what great geniuses are sometimes thrown away upon trifles. "I once saw a shepherd," says a famous Italian author, "who used to divert himself in his solitudes with tossing up eggs and catching them again without breaking them; in which he had arrived to so great a degree of perfection that he would keep up four at a time for several minutes together playing in the air and falling into his hand by turns. I think," says the author, "I never saw a greater severity than in this man's face; for by his wonderful perseverance and application he had contracted the seriousness and gravity of a privy-counsellor; and I could not but reflect with myself that the same assidity and attention, had they been rightly applied, might have made him a greater mathematician than Archemedes.

The Professor's Tea Caddy.—A learned Cambridge professor finding that his college bed-maker was continually abstracting his tea, and being aware of what weight of evidence some females can resist, he determined to let her know he had found her peccadillo out without the chance of contradiction. He bought two pounds of tea, placing one in his caddy, and secreting the other in a drawer; he drew from the latter store so much as was necessary for use, but never touched the former. The contents of the caddy decreased daily and in greater proportion, and at last, while he had still a little left, Mrs. Brown declared his tea to be out. "Well," exclaimed the professor, producing his remnant in great triumph, "I declare, Mrs. Brown, your pound has not lasted so long as mine has!"

The celebrated Dr. Radcliffe could not look upon tradesmens' bills without a sense of keen suffering. Even a poor pavior who had been employed to do a job to the stones before the doctor's house in Bloomsbury Square could not get his money without a contest. "You rascal," cried the doctor as he alighted from his chariot, "do you pretend to be paid for such a piece of work? Why, you have spoiled my pavement and then covered it over with earth to hide the bad work." "Doctor," said the old man, drily, "mine is not the only bad work the earth hides." "Eh, what, so you're a wit, are you?" said the doctor. "Then you must be paid."

A Quaker's Advice to Money Hunters.—A prudent and well-disposed member of the "Society of Friends" once gave the following friendly advice: "John," said he, "I hear thou art going to get married." "Yes," replied John, "I am." "Well," replied the man of drab, "I have one little piece of advice to give thee, and that is, never marry a woman worth more than thou art. When I married my wife, I was worth just fifty shillings, and she was worth sixty-two; and whenever any difference has occurred between us since, she has always thrown up the odd shillings."

The hat was passed around in a certain congregation for the purpose of taking up a collection. After it had made the circuit of the church it was handed to the minister, who, by the way, had exchanged pulpits with the [illegible], and he found not a penny in it. He inverted it over the pulpit cushion and shook it, that [illegible] might be known, then raising his eyes toward the ceiling, he exclaimed, with great fervor, "I thank God that I got back my hat from this congregation."

A little boy not yet three years old, said with much earnestness: "I wish I could see God." His mother, quite charmed with such evidence of early piety in her child, said: "My dear, what would you say to God if you could see him?" Said he, "I would ask him to *unmake the rats!*"

Though a man has all other perfections and wants *discretion*, he will be of no great consequence in the world; but if he has this single talent in perfection and but a common share of others, he may do what he pleases in his particular station of life.

I have been often puzzled to assign a cause why women should have the talent of ready utterance in so much greater perfection than men. Hudebras says that the tongue is like a race-horse, which runs the faster the lesser weight it carries.

A young man who had been invited out to dine and had partaken *very* freely of watermelon for dessert, was accosted by one of his friends with—"Well, Sam, how do you feel?" "Why," said he, "I feel as though I was a *freshet*."

To ascertain the specific gravity of a metal you must weigh it in water; to ascertain that of a man you must make the experiment with wine.

The bellman of Watertown, announcing a temperance meeting, said it would be addressed by six women who had *never spoken before*.

Forrest Leaves.—With the forest leaf as with the Christian, the glory of its coming is eclipsed by the glory of its departure.

Artemus Ward says experience is an excellent schoolmaster, but does charge dreadful wages.

Half Volume of the Genesee Farmer.

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We want five thousand new subscribers to the half volume. Our friends can get us twenty thousand with little trouble if each one would spend a few hours in canvassing. We are doing our best to make a good, reliable agricultural journal, and if our present subscribers would recommend it to their neighbors we should receive five thousand additional readers in one week. Shall we have them? Do not wait for each other, or for our old agents. We should be glad if every reader of the Farmer would consent to act as agent in getting subscribers. Let us see who responds first.

An Excellent Appointment.

Sanford Howard has received and accepted the appointment of Secretary to the Michigan Board of Agriculture and Agricultural College. We congratulate the farmers of Michigan. There is no better man in the United States for the post—none for *any* post where a knowledge of agriculture in all its varied branches is required, united with practical experience and extensive observation.

Mr. Howard was for some years a farmer in Ohio, where he wrote occasionally for the Agricultural Press, and his articles were so well received that he was called from the farm to occupy the editorial chair of the Albany *Cultivator*, then, as now, one of the leading agricultural journals of the country. He remained at Albany for several years, when he returned to his native State of Massachusetts to take charge of the Boston *Cultivator*. He has been connected with the Agricultural Press for over twenty years, has twice visited Europe, is editor of the *Devon Herd Book*, and thoroughly acquainted with the history of all the improved breeds of horses, cattle, sheep, &c., in the United States. He can not fail to render great service to the cause of agricultural improvement at the West.

We observe, from a report in the Boston *Journal*, that the Massachusetts Agricultural Club a few days since entertained Mr. Howard at a public dinner, and presented him with a massive silver pitcher as a token of their appreciation of his services for the improvement of agriculture and respect for his character.

Death of Distinguished Agriculturists.

We are pained to record the death of several distinguished agriculturists within the last few weeks:

Edward G. Faile, ex-President of the State Agricultural Society, and well known throughout the country as a breeder of Devon cattle, died at his residence, at West Farms, Westchester Co., N. Y., April 30th, in the 66th year of his age. There were few men more honored and beloved. Quiet and unostentatious in his manners, a diligent student of nature, it was his delight, though an eminently successful business man, to spend his time in the peaceful avocations of agriculture, and esteemed it his highest honor to be a Christian man and a farmer.

Charles B. Calvert, President of the Maryland Agricultural College, died at his residence, at Riversdale, May 12th. He was a large and successful farmer, prominent in every agricultural improvement, and his loss will be severely felt, not only in his own State, but throughout the whole country.

Rev. C. E. Goodrich, of Utica, N. Y., well known for his experiments on potatoes, and for the number of excellent seedlings he has produced, died at Utica, May 11th, aged 63 years. At the last annual meeting of the State Agricultural Society a fund was raised from gentlemen then present for the purpose of presenting him a testimonial of their esteem and a token of their appreciation of his labors for the improvement of one of our important crops. He has not lived long to enjoy it, but it is a pleasure to know that it soothed his last days.

Dr. Eva Pugh, President of the Pennsylvania Agricultural College, has also been taken from us, and left us to mourn his early death. Like many other distinguished scientific men, he was from the humbler walks of life—having been originally a blacksmith. He devoted all his spare time and earnings to the improvement of his mind. He was at length enabled to go to Europe to complete his chemical studies. After he had spent some time in several of the most celebrated laboratories on the Continent, he spent two years with Mr. Lawes on his experimental farm at Rothamsted, engaged in investigations in regard to the absorption of atmospheric nitrogen by plants. Returning to this country he was elected President of the Agricultural College of his native State, and soon gave it a character possessed by no similar institution in this country. He was a man of unbounded energy and perseverance, and thoroughly acquainted with the science and practice of agriculture. His loss is irreparable.

Agricultural Fairs.

We should feel obliged to the Secretaries of the various Agricultural Societies in the United States and Canadas if they would inform us at what time their next Fairs are to be held. We wish to publish as complete a list as possible.

Inquiries and Answers.

WOULD unleached ashes and hen manure do to mix with superphosphate for turnips, carrots, &c., or corn, or would they be better applied without mixing with the latter?—CANADA WEST.

The superphosphate would not injure the hen manure or ashes, but the ashes might injure the superphosphate if mixed for sometime before sowing. You will find by mixing ashes with superphosphate (if it is a good article), that considerable heat is produced—the result of chemical decomposition.

Superphosphate of lime is made by adding sulphuric acid to bones. The phosphate of lime in bones is nearly insoluble in water. It is composed of one atom of phosphoric acid and three atoms of lime. When sulphuric acid is added, it unites with two atoms of the lime, forming sulphate of lime or plaster, and the remaining atom of lime is united with the atom of phosphoric acid, forming an acid phosphate of lime which is quite soluble in water. Now if potash is added to the mixture, portions of the phosphoric acid leaves the lime and forms phosphate of potash. The phosphate of lime then in the mixture is the same as in the original bones, though from its fine comminution a little more soluble. On the whole, however, we should prefer not to mix the ashes with the superphosphate unless to save labor in their application.

BUTTER-WORKER—AGAIN.—I am very much obliged to you and your correspondent for sending me the hand-bill of the "Keystone Butter-Worker." I am sure Mr. Reed has good butter in his dairy, and so is interested in having others as successful. If my dairy was large enough, I should not hesitate to purchase one on such disinterested recommendation, but I have only five cows. I presume you will think, after this confession, that I do not need a butter-worker at all; but I find there is enough to do with the aid of all the labor-saving machines that have ever been invented. If some one would tell me of a smaller one, I should be glad to get it. I am quite out of the world, and do not know where to order such a thing.—E. R. P.

If any of our readers can help this good lady to get such a butter-worker as she needs we should esteem it a favor. One of our correspondents, Mr. Reed, wrote us recommending the "Keystone Butter-Worker," manufactured by P. G. Woodard, of Waterford, Erie county, Penn. We sent his letter to "E. R. P.," and the above is her reply. She thinks the "Keystone Butter-Worker" is intended for a large dairy. Mr. Woodard writes us that he will send a circular, gratis, describing his machine to "E. R. P.," or to any of our readers who will write for one. We think, from the description, that it is well calculated to effect the object.

WHEN is the best time to sow plaster—which month and what time in the month? I have never used any except on corn. I have been told that in the morning, when the dew is on, is the best time in the day.—P. SHAFER, *Salamanca, N. Y.*

On clover, sow at any time from March until June. Some think it is better sown early and some late. On the whole, we think it is better to sow it early in the spring, but would much prefer to sow it later than not at all. Scientific men differ greatly in regard to the action of plaster. Some think it acts on the leaves, and if so it would be better to sow it rather later in the spring—and also, as you suggest, when the dew is on or the clover is wet. For corn, potatoes and beans, the usual practice is to drop the plaster on the hills before the first hoeing.

I SHOULD be glad if you or some of your correspondents would give directions how to breed fish and raise them in a pond? I have a large spring so situated that I think I could make a pond with little trouble. Also, how to sprout cedar seeds.—SAMUEL ALLEY, *Pleasant Ridge, Mo.*

How much nutriment is there in corn fodder, stalks and leaves? Will it pay to cut them up and feed them with other food?—G. B. G., *Louisville, Ky.*

Speak a Good Word for the Farmer.

MR. P. SHAFER, of Salamanca, N. Y., who gets us up a good club of subscribers, writes: "I have not been able to get out among my neighbors. I have only mentioned the matter in my own house, and shown a copy of the neat little *Farmer*, and almost invariably he has taken fast hold on the affections of my visitor. The only question asked is, "Do *you* think it is worthy?" "Most certainly," I answer, and that is enough.

We should be glad if all our friends would "show a copy of the paper" to their neighbors who do not take it, and ask them to subscribe for the forthcoming half volume, which commences with the next number. In clubs, the subscription price for the half year is only twenty-five cents! There are few neighborhoods where a club of eight could not be formed with little trouble. Will our friends see what they can do for us the present month?

The Markets.

OFFICE OF THE GENESEE FARMER,
ROCHESTER, N. Y., May 25, 1864.

AT our last report, Gold was at 80 ⅜ cent. premium. Since then it fell to 68 per cent. Notwithstanding our successes in Virginia, however, Gold has again advanced to 182¼. One reason assigned for this advance is the continued issue of Interest-bearing Legal Tender Notes. Another reason is the fact that the Bank of England has advanced its rates of interest to 9 ⅜ cent! and as some four hundred millions of our securities are held in England, it is thought that owing to the stringency in the British money market a large amount of American securities will be sent home for redemption. Our foreign creditors, too, will be more pressing in their demands, and hence it is thought that a large amount of Gold and Sterling Exchange will be required for the next few weeks. The speculators have taken advantage of this state of facts, and have been buying largely in anticipation of an advance in Gold.

Our exports continue very light, while there is no falling off in our imports. A society of influential ladies has been formed who pledge themselves not to wear anything of foreign manufacture "for three years or during the war." It is thought that this movement, if successful, will check importations and lessen the demand for Gold.

The following table shows the total export of Breadstuffs from all ports in the United States to Great Britain and Ireland from September 1, 1863, to March 18, 1864, and *during the same period* in 1861, 1862 and 1863:

	Flour, bbls.	Wheat, bush.	Corn, bush.
1861	1,987,708	17,152,273	5,014,901
1862	1,786,333	14,476,416	10,574,108
1863	1,030,048	16,797,194	2,904,378
1864	820,109	9,880,217	240,220

These figures speak for themselves.

In addition to the demands of the Army, large numbers of men have flocked to the cities to engage in mercantile pursuits, and there can be little doubt that the effect on agricultural pro-

ductions will be seriously felt the coming season. It is to some extent already apparent, as the above figures indicate.

The Wool market is quiet, but very firm. There is a very light supply in the hands of manufacturers, and should Gold maintain its present premium there is every probability that Wool will rule high the coming season. Assuming 40 cents ℔ lb as a fair average paid *in Gold*, we ought now to get 72 cents (100 : 180 : : 40 : 72). This is entirely aside from the increased demand for army purposes and on account of the scarcity of cotton. Taking these into consideration, and the additional tariff on woolen goods, it is not improbable that fine Wool will reach one dollar ℔ lb before next spring.

Grain of all kinds has advanced. Good Potatoes in this city are worth $2.75 ℔ barrel. They bring from $2.50 to $3.50 in New York, according to quality. Beans are in demand at $2.50 to $3.00.

Butter is higher. California shippers have paid as high as 42 cents ℔ lb for select firkins. As the quality improves, there will be a greater demand for export to England, and the price of all good Butter will be regulated by the premium on Gold. It will sell for Gold in California and Europe. As long as 25 cents in Gold is worth 45 cents in Currency, Butter will not be very low!

New York Cattle Market.—Beef Cattle were higher in New York last week than ever before known—and this notwithstanding the unusually large supply. Extra prime Cattle brought over 18 cents ℔ lb for the estimated weight of Beef. In other words, an Ox weighing alive 18 cwt., would bring, estimating it to dress 60 per cent. of Beef $190!

The New York papers are urging their readers to abstain from Beef for two or three weeks, and see if this would not bring the drovers and butchers to their senses.

Sheep are also higher. Good lots of unsheared Sheep bring 12½c. ℔ lb live weight. Good sheared Sheep bring 9c. ℔ lb, and the butchers can not obtain a full supply even at these high rates. Mutton sold last week as high as 16 to 18c. ℔ lb.

Hogs have advanced nearly 1c. ℔ lb. They are quoted at 8 to 9c. ℔ lb live weight, or 10@11c. dead weight.

Milch Cows are in great demand *everywhere*. Farmers wisely prefer to keep them to make Butter and Cheese rather than sell them even at present high prices. The *Tribune* says: "It is a poor cow that will not bring $50, while fair milkers command $60 @70 each, and extra Cows of large size $80@90 each. Good fat Calves bring from 9@10c. ℔ lb live weight. Even 'Bobs' sell for $2.50 to $3.00 each."

These are high prices. Let us strain every nerve to increase the products of our farms the coming season.

Special Notices.

Bradley's XL Superphosphate of Lime.

We present the following testimonials of the value of Bradley's XL Superphosphate of Lime:

Boston, May 2, 1863.

William L. Bradley, Esq. *Dear Sir:* You ask my opinion, as derived from my chemical analysis, of your XL Superphosphate, and, from my knowledge of the science of agriculture, as to the value of this Super-phosphate as a fertilizer.

No one who knows any thing of the science, can doubt that such an article will prove of great value, and that it is adapted to supply the most essential substances removed from the soil by our usual crops, and that it supplies these articles to the soil which are sparingly found in it in its natural state. I would also observe, that beside this the Superphosphate, containing, as it necessarily does, free phosphoric acid, reacts on the soil, and renders substances in it, before unavailable on account of their insolubility, soluble, and therefore absorbable by the rootlets of plants. Thus magnesian minerals, and those containing potash, will be made to render up a portion of their magnesia, and alkali, and carbonates of lime, and of magnesia, will deliver up a portion of their carbonic acid freely to the soil and to the plants. These reactions are much more extensive in soils than is generally supposed, and will vary in different soils.

Respectfully, your obedient servant,

CHARLES T. JACKSON, M. D., State Assayer.

Suffield, Conn., Oct. 7, 1863.

W. L. Bradley, Esq. *Dear Sir:* In 1862 we introduced the sale of Phosphate in this town as the first general agent, and sold eight tons. The present year, 1863, we sold 46,825 pounds, as follows:

"Coe's," net,	22,373
XL, net,	24,452
	46,825

Besides that which was drawn here from Hartford and Springfield, and purchased at our suggestion. We have also sold considerable since our early spring sales as before enumerated, for fall use, and the sale daily grows.

Wherever your XL was used, so far as we can ascertain, without an exception, every farmer is highly pleased and satisfied; it is just the thing. Where the XL was used side by side of other Superphosphates, or of fish guano, the former won the crop and distanced its competitor fairly and handsomely. Where the XL was used without any manure, the crop of tobacco has shown itself very heavy, and exceedingly fine, and has awoke a new and decided interest for its future use.

We could fill pages of its operation, and make some startling statements.

A piece of tobacco *set late in July*, and with no special hopes of doing well, the owner spread the XL Phosphate on the surface and put it in the hill, and he yesterday told us that it exceeded any thing he ever saw, was far ahead of the piece where he had used plenty of manure, at a far heavier cost, and the tobacco was ready to cut and hang some eight days ahead of his other pieces where manure was used.

Mr. Thomas Archer, who never used any of the artificial fertilizers before this year, is more than satisfied, and is now ready to use double the quantity another year.

Mr. Lillie, very practical in all his workings, tried this year all kinds, and gives it as his opinion that the XL *can't be beat*. When asked his opinion of the different Phosphates, he most decidedly gives the preference to the XL.

There is no use of adding or saying more, for it is established in this quarter. So long as the quality of the Phosphate is kept up to its standard, nothing can interfere with its use and sale.

Yours, respectfully, LOOMIS & CO.

For further particulars, address W. L. Bradley, No. 24 Broad street, Boston, Mass.

Fruit Growers' Society of Western New York.—The Summer Meeting of the Fruit Growers' Society of Western New York will be held at the Court House in the city of Rochester, on WEDNESDAY, the 22d day of June.—Session to commence at 11 o'clock in the forenoon.

Members, and all interested in the culture of Fruit, are invited to be present and to bring with them specimens of fruit in season for exhibition. JAS. VICK, Secretary.

Rochester, N. Y., May 21, 1864.

Fortunate Combination.—We are opposed to proprietary medicines, and it is with some compunction that we see advertisements of them in our columns. Still we must confess that Brown's Troches are convenient and useful, in certain conditions of the throat and larynx, before speaking.—*New York Christian Advocate.*

Send for a Circular of Grover's Patent Swing-BEAM PLOW. See advertisement in May number of the Farmer. D. C. ALLING, Rochester, N. Y.

ADVERTISEMENTS.

$2 **MADE FROM 20 CENTS!**—Call and examine, or ten samples sent free by mail for 20 cents. Retails for $2 by R. L. WOLCOTT, 170 Chatham Square, N. Y. my'64-1y

$80 **PER MONTH!—AGENTS WANTED IN** EVERY TOWN. It is something new and of real value. For particulars address, with stamp, my2t* J. S. PARDEE, Binghampton, N. Y.

SAPONIFIER,

OR CONCENTRATED LYE

FAMILY SOAP MAKER.

WAR makes high prices; Saponifier helps to reduce them. It makes **Soap** for **Four** cents a pound by using your kitchen grease.

☞ **CAUTION!** As spurious Lyes are offered also, be careful and only buy the **Patented** article put up in **Iron** cans, all others being **Counterfeits.**

PENNSYLVANIA SALT MANUFACTURING CO.,

Philadelphia—No. 127 Walnut Street.

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Turnip Seed! Turnip Seed!

J. M. THORBURN & CO.,
15 John Street, New York,

Offer of the finest and purest stocks,

Early White Dutch Turnip, ℔ ℔,	$0.75
Red Top Strap Leaf Turnip, ℔ ℔,	0.75
White Flat Strap Leaf Turnip, ℔ ℔,	0.75
Large White Globe Turnip, ℔ ℔,	0.75
Large White Norfolk Turnip, ℔ ℔,	0.75
White Cow Horn Turnip, ℔ ℔,	0.75
New Long Pure White Turnip, ℔ ℔,	0.75
Long White French Turnip, ℔ ℔,	0.75
Robertson's Golden Fall Turnip, ℔ ℔,	1.00
Yellow Aberdeen Turnip, ℔ ℔,	0.75
Yellow Stone Turnip, ℔ ℔,	0.75
Improved Yellow Ruta Baga, ℔ ℔,	0.75
Skerving's Ruta Baga, ℔ ℔,	0.75
Laing's Ruta Baga Turnip, ℔ ℔,	0.75
Also, the celebrated Scarlet Chinese Winter Radish, ℔ oz. 20c., ℔ ℔,	1.50

Together with every other variety of Garden and Field Seeds.

J. M. THORBUEN & CO.,
15 John street, New York.

☞ Turnip Price Current for the "Trade" only, just published. je1t

GREAT SALE OF

THOROUGH-BRED JERSEY

AND

SHORTHORN DURHAMS.

WILL BE SOLD AT AUCTION JUNE 15th, 1864, at the Giles' Farm, two and a half miles from Putnam Station, on the Worcester and Norwich Railroad, twenty head of Pure Bred JERSEYS, from one to five years old, fourteen with young calves.

Twenty head of SHORTHORNS and GRADES, ten of them Herdbook animals.

Also, a lot of improved Suffolk and Yorkshire PIGS.

☞ A full Pedigree given to each animal, and warranted. Catalogue at Sale.

JOHN GILES,
je1t South Woodstock, Conn.

"A Slight Cold," Coughs.

Few are aware of the importance of checking a Cough or "SLIGHT COLD" in its first stage; that which in the beginning would yield to a mild remedy, if neglected soon attacks the lungs.

Brown's Bronchial Troches

give sure and almost immediate relief. *Military Officers and Soldiers should have them, as they can be carried in the pocket and taken as occasion requires.* je1t

SEEDS.

GARDEN, FIELD AND FLOWER SEEDS of every variety, choice and reliable.

FARM AND GARDEN IMPLEMENTS of all kinds.

GUANO, BONE DUST and other fertilizers.

PLANTS, TREES, ROOTS, &c., for sale at low prices by

JOHN VANDERBILT,
Union Agricultural Warehouse,
my2t 28 Fulton street, New York.

THE CELEBRATED CRAIG MICROSCOPE. — Combining Instruction with Amusement, is mailed, prepaid, for $2.50; or with 6 beautiful Mounted Objects for $3.25; with 12 Objects, $5.50, by HENRY CRAIG,
180 Centre street, New York.

Also, he will mail, prepaid, the Novelty Magnifying Glass, for examining Living Insects, Seeds, Flowers, &c., for $1.50; or with 12 beautiful Mounted Objects for $3. je'6t

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FRUIT AND GENERAL PRODUCE

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70 and 71 Broad Avenue, West Washington Market, New York.

FARMERS PRODUCE of all kinds, Green, Dried and Canned Fruits, Maple Sugar and Sirup, Pork, Poultry, Butter, Eggs, Game, &c.

Particular attention paid to Fruit. Consignments solicited. April, 1864.—3t

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COMBINED MOWER & REAPER,

AND

CAYUGA CHIEF, JR., MOWER.

Manufactured at Auburn, N. Y., by

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AMMONIATED PACIFIC GUANO.

A REAL GUANO, containing from 70 to 80 per cent. of phosphate of lime, to which has been added by a chemical process a large per centage of actual ammonia, so fixed that it can not evaporate, making it equal, if not superior, to any other fertilizer.

Pamphlets with copies of analyses by Drs. Jackson, Massachusetts State Assayer, and Liebig, of Baltimore, and testimonials from scientific agriculturists showing its value, can be obtained from

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TO FARMERS!

BRADLEY'S TOBACCO FERTILIZER, AND BRADLEY'S X L Superphosphate of Lime, are for sale at wholesale and retail by the Manufacturer. WM. L. BRADLEY:

Sales Office 24 Broad street, Boston.

☞ Pamphlets containing testimonials in favor of his Tobacco Fertilizer, Bradley's X L Manual on the Culture and Curing of Tobacco, with Illustrations, can be had by addressing the undersigned. WM. L. BRADLEY.

☞ Highest Cash prices paid for Bones. my

IMPROVED STOCK FOR SALE.—I desire to diminish my stock, and will sell low some superior LEICESTER SHEEP, a few very fine BLOOD MARES, (Morgans, Black Hawks and Hambletonians,) and COLTS, from one to four years old. One pair of very beautiful four-year old BLACK HAWK STALLIONS, 15¼ hands, jet black color, closely matched and of extraordinary style and promise of speed. Price, $800 for the pair, or $500 each, if seperated.

Catalogues with descriptions sent when requested.

my2t H. L. SHIELDS, Bennington, Vt.

FARM FOR SALE.

A GOOD FARM of 110 acres, near the village of Van Etten, in Chemung county, N. Y., 14 miles from Havanna. It is good land, but as I can not attend to it myself, I will sell it for $25 per acre. Only *one-third* of the purchase money need be paid down. The remainder can lie any length of time that is desired. JOSEPH HARRIS, Rochester, N. Y.

A 40-ACRE FARM IN MICHICAN.

FORTY ACRES OF WOOD-LAND—Heavily timbered, near Wyandotte, a few miles from Detroit, Mich. Will be sold cheap. JOSEPH HARRIS, Rochester, N. Y.

TO INVENTORS AND PATENTEES—Inventions EXAMINED and opinions given without charge. Patents OBTAINED; Patents RE-ISSUED; Patents EXTENDED. No charge for rejected cases unless successful. J. FRASER & CO.,
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ap2t Buffalo and Rochester, N. Y.

PATENTS.—Patents for inventions secured on favorable terms. No charge for consultations and opinions. No charge for rejected cases unless successful. J. FRASER & CO., Western N. Y. Patent Agency, Buffalo and Rochester, New York. je2t

HOP POLES.—20,000 White Cedar, deliverable at Albany. je2t* A. EDWARDS, Shrewsbury, N. J.

New York State Agricultural Works.

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Railway and Lever Horse Powers,

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THE BEST IN USE.

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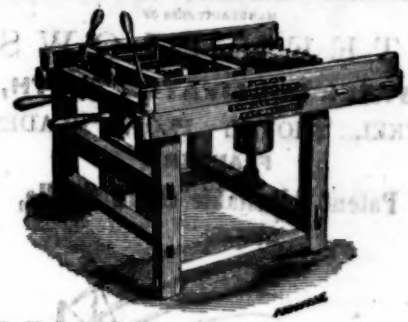

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Mayhew's Horse Management.

JUST PUBLISHED,

The Illustrated Horse Management, containing descriptive remarks upon Anatomy, Medicine, Shoeing, Teeth, Food, Vices, Stables; likewise a plain account of the situation, nature, and value of the various points; together with Comments on Grooms, Dealers, Breeders, Breakers, and Trainers; also on Carriages and Harness. Embellished with more than 400 engravings from original designs made expressly for this work. By EWD. MAYHEW, M. R. C. V. S., author of "The Illustrated Horse Doctor" and other works. 1 vol. 8vo.

MAYHEW'S HORSE DOCTOR.

NEW EDITION.

The Illustrated Horse Doctor; with more than 400 pictorial representations of the various diseases to which the equine race is subjected; together with the latest mode of treatment, and all the requisite prescriptions written in plain English. By EDW. MAYHEW, M. R. C. V. S. 1 vol. 8vo.

[From the London Globe.]

Every gentleman who possesses or cares for Horses would do well to keep this book in his house. Mr. Mayhew's treatment of the worst diseases to which Horses are liable is very clearly laid down, and the method of keeping Horses well and to a prolonged old age is that of nature, of common sense.

☞ For sale by all Booksellers.

J. B. LIPPINCOTT & CO.,

Publishers, Philadelphia.

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Maryland Farms for Sale.

WE have for sale over Two Hundred FARMS in this State, of as beautiful and productive land as ever the sun shone upon, having access by railroads, steamboats and turnpikes.

These Farms, in many instances, can be bought for less than the improvements upon them cost, in consequence of the change from slave to free labor.

As Surveyors we have an intimate knowledge of the lands of this State. Inquiries by letter will be promptly answered.

E. W. TEMPLEMAN & CO., Real Estate Brokers,

Baltimore City, Md.

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Shorthorns for Sale.

THE BULL HOTSPUR 4080 A. H. B. by Duke of Gloster (11,882) dam Daphne (imported) by Harrold (10,299), rich roan, calved May 15, 1860. Also, three YEARLING BULLS and five BULL CALVES, mostly by Hotspur, and a few HEIFERS.

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T. L. HARISON, Morley, St. Lawrence co., N. Y.

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White or Hedge Willow for Sale.

CUTTINGS of this superior live fence plant, of suitable length, at $1 per 100 or $5 per 1000. Warranted true SALIX ALBA.

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MANUFACTURERS OF

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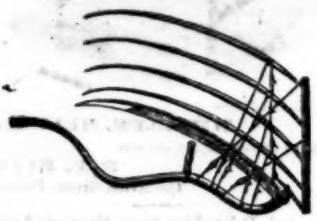

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HORSE HAY ELEVATOR,

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PATENT HORSE POWER,

AND

Agricultural Implements Generally.

The Cradle Elevator and Horse Plow

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We have changed the iron head of the Elevator for wood, which has proved better and lighter than iron. The Horse Power has proved itself far superior to any in use. Address

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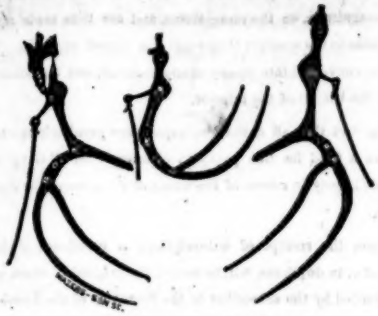

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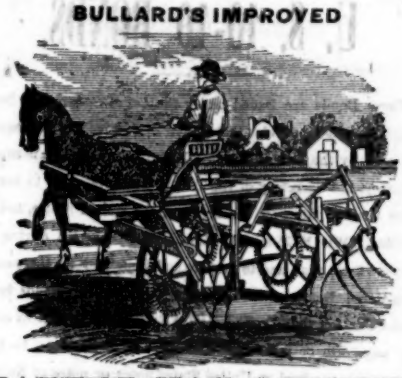

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